

STATE OF SOUTH CAROLINA

(Caption of Case)

Application of SCE&G Gas Company for a
Certificate of Environmental Compatibility and
Public Convenience and Necessity for the
Construction and Operation of a 230 kV
Transmission Line from its V.C. Summer
Switchyard #1 to its Killian Transmission Lines

232084
BEFORE THE
PUBLIC SERVICE COMMISSION
OF SOUTH CAROLINA

COVER SHEET

DOCKET

NUMBER: 2011 - 325 - E

(Please type or print)

Submitted by: Danny Crowe

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NOTE: The cover sheet and information contained herein neither replaces nor supplements the filing and service of pleadings or other papers as required by law. This form is required for use by the Public Service Commission of South Carolina for the purpose of docketing and must be filled out completely.

DOCKETING INFORMATION (Check all that apply)

☐ Emergency Relief demanded in petition ☐ Request for item to be placed on Commission's Agenda expeditiously

☐ Other:

INDUSTRY (Check one)	NATURE OF ACTION (Check all that apply)		
<input type="checkbox"/> Electric	<input type="checkbox"/> Affidavit	<input type="checkbox"/> Letter	<input type="checkbox"/> Request
<input type="checkbox"/> Electric/Gas	<input type="checkbox"/> Agreement	<input type="checkbox"/> Memorandum	<input type="checkbox"/> Request for Certification
<input type="checkbox"/> Electric/Telecommunications	<input type="checkbox"/> Answer	<input type="checkbox"/> Motion	<input type="checkbox"/> Request for Investigation
<input type="checkbox"/> Electric/Water	<input type="checkbox"/> Appellate Review	<input type="checkbox"/> Objection	<input type="checkbox"/> Resale Agreement
<input type="checkbox"/> Electric/Water/Telecom.	<input type="checkbox"/> Application	<input type="checkbox"/> Petition	<input type="checkbox"/> Resale Amendment
<input type="checkbox"/> Electric/Water/Sewer	<input type="checkbox"/> Brief	<input type="checkbox"/> Petition for Reconsideration	<input type="checkbox"/> Reservation Letter
<input type="checkbox"/> Gas	<input type="checkbox"/> Certificate	<input type="checkbox"/> Petition for Rulemaking	<input type="checkbox"/> Response
<input type="checkbox"/> Railroad	<input type="checkbox"/> Comments	<input type="checkbox"/> Petition for Rule to Show Cause	<input type="checkbox"/> Response to Discovery
<input type="checkbox"/> Sewer	<input type="checkbox"/> Complaint	<input type="checkbox"/> Petition to Intervene	<input type="checkbox"/> Return to Petition
<input type="checkbox"/> Telecommunications	<input type="checkbox"/> Consent Order	<input type="checkbox"/> Petition to Intervene Out of Time	<input type="checkbox"/> Stipulation
<input type="checkbox"/> Transportation	<input type="checkbox"/> Discovery	<input checked="" type="checkbox"/> Prefiled Testimony	<input type="checkbox"/> Subpoena
<input type="checkbox"/> Water	<input type="checkbox"/> Exhibit	<input type="checkbox"/> Promotion	<input type="checkbox"/> Tariff
<input type="checkbox"/> Water/Sewer	<input type="checkbox"/> Expedited Consideration	<input type="checkbox"/> Proposed Order	<input type="checkbox"/> Other:
<input type="checkbox"/> Administrative Matter	<input type="checkbox"/> Interconnection Agreement	<input type="checkbox"/> Protest	
<input type="checkbox"/> Other:	<input type="checkbox"/> Interconnection Amendment	<input type="checkbox"/> Publisher's Affidavit	
	<input type="checkbox"/> Late-Filed Exhibit	<input type="checkbox"/> Report	

RETURN DATE: OK
SERVICE: OK

TURNER PADGET

TURNER PADGET GRAHAM & LANEY P.A.

CHARLESTON
COLUMBIA
FLORENCE
GREENVILLE
MYRTLE BEACH

REPLY TO:

Danny C. Crowe

E-Mail: DCrowe@TurnerPadget.com
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October 6, 2011

VIA HAND DELIVERY

Jocelyn Boyd
Chief Clerk/Administrator
Public Service Commission of South Carolina
101 Executive Center Drive
Suite 100
Columbia, SC 29210

RECEIVED
2011 OCT - 6 PM 2:11
SC PUBLIC SERVICE
COMMISSION

Re: Application for South Carolina Electric & Gas Company for a Certificate of
Environmental Compatibility and Public Convenience, etc.
Docket No. 2011-325-E

Dear Ms. Boyd:

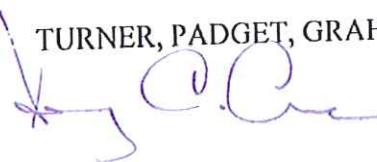
Enclosed for filing on behalf of Richland County in the above-referenced matter is the direct testimony and exhibits of Val Hutchinson and James B. Atkins, along with an attached Certificate of Service.

Please clock a copy of this letter and return it to our courier.

With kind regards, I am

Very truly yours,

TURNER, PADGET, GRAHAM & LANEY, P.A.



Danny C. Crowe

DCC/lb
Enclosure

BUSINESS • LITIGATION • SOLUTIONS

Bank of America Plaza • 17th Floor • 1901 Main Street (29201) • PO Box 1473 • Columbia, SC 29202
Phone (803) 254-2200 • Fax (803) 799-3957 • turnerpadget.com

TURNER PADGET

October 6, 2011

Page 2

cc: Shannon Bowyer Hudson, Esquire
Jeffrey M. Nelson, Esquire
Carlisle Roberts, Esquire
Duane Parris
John E. Frampton
Matthew W. Gissendanner, Esquire
K. Chad Burgess, Esquire
(all with enclosures)

CERTIFICATE OF SERVICE

I, Lynne Bennink, an employee of Turner, Padgett, Graham & Laney, P.A., do hereby certify that I have served all counsel and parties in this action with a copy of the **Direct Testimony and Exhibits of Val Hutchinson and James B. Atkins** by mailing a copy of the same by United States Mail, postage prepaid, to the following address(es):

Counse and parties served:

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Office of Regulatory Staff
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Columbia, SC 29201

Shannon Bowyer Hudson, Esquire
Office of Regulatory Staff
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SCDHEC, Legal Department
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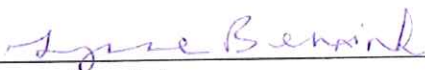
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NOTIFICATION



Lynne Bennink
Secretary to Danny C. Crowe

October 6, 2011

DIRECT TESTIMONY OF

VAL HUTCHINSON

ON BEHALF OF

RICHLAND COUNTY

DOCKET NO. 2011-325-E

SC PUBLIC SERVICE
COMMISSION

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1
2
3
4
5
6 **Q. PLEASE STATE YOUR NAME, AFFILIATION AND ADDRESS.**

7 **A.** My name is Val Hutchinson, and I reside at 213 Wood Duck Road,
8 Columbia, SC 29223. I was elected to the Richland County Council in 2004 and
9 represent District 9. I also serve as Chair of the Development and Services
10 Committee which has responsibility for general operating matters, economic
11 development, and functions within the County Departments of Public Works and
12 Engineering.

13
14 **Q. HAVE YOU EVER APPEARED BEFORE THE PUBLIC SERVICE**
15 **COMMISSION?**

16 **A.** Yes. I provided comments in the Palmetto Utilities rate case earlier this
17 year to make sure the interests of Richland County and the citizens of my District
18 were accurately heard before the Commission.

19
20 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
21 **PROCEEDING?**

22 **A.** The purpose of my testimony is to place in the record of this docket the
23 concerns of both myself and Richland County Councilwomen Gwendolyn
24 Kennedy (District 7), as well as the perspective of Richland County Council, on
25 the proposed Blythewood to Killian transmission line. The Richland County
26 Council voted **unanimously** for the County to intervene in this proceeding and
27 oppose SCE&G's application.

28

1 Q. CAN YOU SUMMARIZE YOUR TESTIMONY REGARDING THE
2 PROPOSED TRANSMISSION LINE?

3 A. Richland County Council as well as our staff have serious concerns about
4 the proposed transmission line route and its future negative impacts to the
5 Northeast area of Richland County. The route fails to adequately take into account
6 the impacts to (1) the Killian's Crossing Planned Development District (PDD)-
7 Urban Village, (2) the aesthetic appearance of the Killian Road-Clemson Road
8 Priority Investment Area and (3) the future Richland County Northeast Regional
9 Sports Complex. During my tenure on Richland County Council, the Council, and
10 the elected representatives from the Northeast portion of the County, have worked
11 diligently to improve the economic viability, quality of life, and appearance of
12 Northeast Richland County. The proposed "Route K" is inconsistent with, and a
13 significant step backwards for Richland County's comprehensive economic
14 development and planning efforts.

15
16 Q. WHY IS KILLIAN'S CROSSING PDD SO IMPORTANT TO RICHLAND
17 COUNTY?

18 A. Killian's Crossing PDD is one of two Priority Investment Areas in
19 Northeast Richland County. Killian's Crossing PDD will form an anchor "Urban
20 Village" at Interstate I-77 and Killian/Clemson Roads while the Village at
21 Sandhill, also a Priority Investment Area, forms the other anchor at Clemson
22 Road and US Hwy 1. This is demonstrated on the 2009 Future Land Use Map
23 from the County's Comprehensive Plan. Exhibit No. 1. The Clemson Road
24 corridor is a critically-important economic driver for all of Richland County.
25 Appearance is of upmost importance in this corridor. The location, size and public
26 visibility of the proposed transmission line running parallel to the Killian's
27 Crossing PDD along Killian/Clemson Roads will result in significant degradation
28 to the Killian's Crossing PDD and other existing and planned high-end
29 commercial properties between Farrow Road and Interstate I-77.

30

1 **Q. CAN YOU EXPLAIN THE IMPORTANCE OF THE RICHLAND**
2 **COUNTY NORTHEAST SPORTS COMPLEX?**

3 A. The Northeast Regional Sports Complex was first contemplated by
4 County Council in 2003. To date, Richland County has appropriated
5 approximately \$20,000,000 towards the Complex which has a total projected cost
6 of approximately \$55,000,000. The Complex is envisioned as a "Regional"
7 facility attracting tournaments from across the Southeast in soccer, baseball,
8 softball, field and roller hockey, basketball and cheerleading.

9 A team headed by the M.B. Kahn Company completed a concept
10 development plan and report for the Northeast Regional Sports Complex in July
11 2010. The report estimated an annual economic impact to Richland County of
12 \$240,000,000 with \$137,000,000 and \$103,000,000 in direct and indirect annual
13 benefits, respectively. The initial plans for the Northeast Regional Sports
14 Complex envision a number of soccer and baseball fields. A tournament
15 championship soccer stadium and tournament championship baseball stadium are
16 planned. These facilities are planned in locations and configurations that will be
17 adversely effected by the proposed transmission line. Due to less than optimal
18 siting decisions in the past, SCE&G currently owns a dual circuit 230 kV and 115
19 kV transmission line which bisect the Northeast Regional Sports Complex. This
20 existing line has presented a major challenge to the design of the Northeast
21 Regional Sports Complex and having an additional transmission line on this
22 public recreational property is unacceptable.

23
24 **Q. ARE YOU FAMILIAR WITH THE TERM "NIMBY"-NOT IN MY**
25 **BACKYARD? IS THIS A CASE OF RICHLAND COUNTY NOT**
26 **WANTING A TRANSMISSION LINE IN THIS PART OF RICHLAND**
27 **COUNTY?**

28 A. I am familiar with the term, and to the contrary, Richland County Council
29 recognizes the importance of properly locating and allowing utility lines in the
30 County. Without such public services (water, sewer, natural gas and electricity),
31 Richland County could not systematically manage its growth, protect our

1 environment, or improve the quality of life for our citizens. We do not take
2 exception to the need for the proposed line, but we do take exception to the
3 proposed Route K. Specifically we have an issue with how SCE&G failed to
4 obtain the correct zoning and land development information from the County
5 Zoning Administrator prior to submitting their application to the Commission,
6 and importantly, SCE&G's failure to brief County Council on their siting
7 analysis.

8 Utility lines, as provided in Richland County's Land Development Code,
9 are allowed in all zoning districts because County Council recognizes the
10 importance of utility lines to our community. However, allowing such lines in no
11 way suggests that SCE&G, or any other utility provider, should ignore and
12 discount Richland County's broad economic development interests for Northeast
13 Richland County as well as our Land Development Code.

14
15 **Q. FROM THE PERSPECTIVE OF AN ELECTED OFFICIAL, PLEASE**
16 **EXPLAIN WHY RICHLAND COUNTY REGULATES ALL TYPES OF**
17 **LAND DEVELOPMENT ACTIVITIES?**

18 A. Richland County has land development standards to guide development in
19 accordance with existing and future needs, and to promote the public health,
20 safety, morals, convenience, order, appearance, prosperity, and the general
21 welfare of Richland County. County Council, the Planning Commission, Board of
22 Zoning Appeals and staff work diligently to ensure our Land Development Code
23 considers the impacts to individual landowners, businesses, and the citizens of
24 Richland County. In the absence of this Code, development would be chaotic, and
25 the economic health and quality of life of Richland County's citizens would be
26 diminished.

27
28 **Q. WHAT ARE YOU REQUESTING OF THE COMMISSION REGARDING**
29 **SCE&G'S APPLICATION?**

30 A. Richland County is respectfully requesting the Commission to require the
31 following of SCE&G:

1 (1) To work with our staff to obtain the correct zoning and land use data for the
2 proposed transmission line;

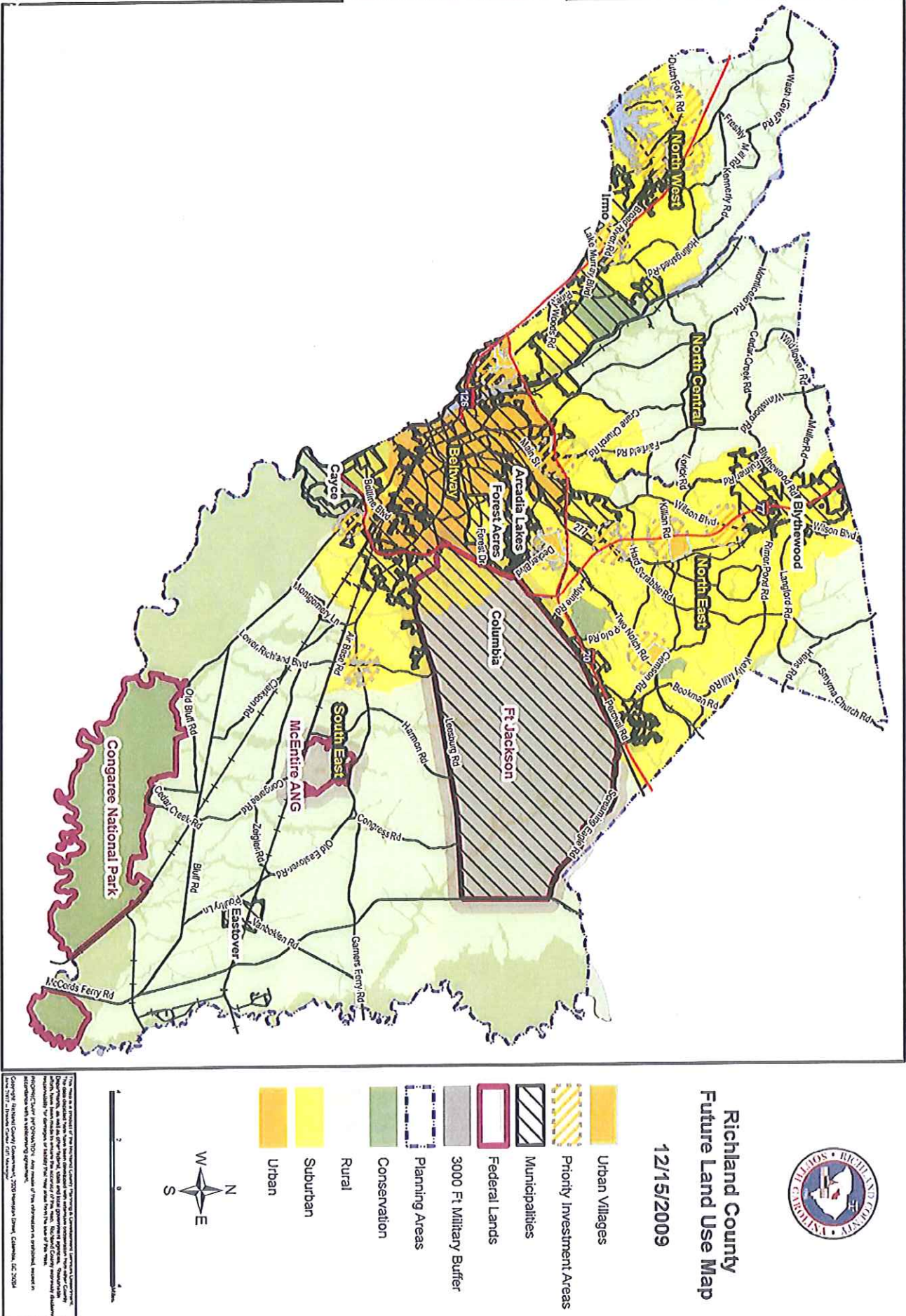
3 (2) To give appropriate consideration to the importance Richland County places
4 on various suitability factors consistent with Richland County's Land
5 Development Code; and

6 (3) To re-run the siting analysis taking these factors, as well as the matters
7 discussed in Mr. Atkins' testimony, into account.

8 Until such work is completed by SCE&G, others on County Council and I believe
9 SCE&G's application, and proposed Route K, does not conform to Richland
10 County's Land Development Code or to specific Ordinances approved by County
11 Council. In the absence of the above, we request you deny SCE&G's application
12 for a Certificate of Public Convenience and Necessity for the proposed
13 transmission line.
14

15 **Q. DOES THAT CONCLUDE YOUR TESTIMONY?**

16 **A.** Yes. On behalf of Richland County Council, thank you for understanding
17 the importance of your decision to the future economic development and quality
18 of life issues in Richland County. Hundreds of millions of dollars' worth of
19 investments hang in the balance.



DIRECT TESTIMONY OF

JAMES B. ATKINS

ON BEHALF OF

RICHLAND COUNTY

DOCKET NO. 2011-325-E

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SOUTH CAROLINA
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COMMISSION

Q. PLEASE STATE YOUR NAME, AFFILIATION AND BUSINESS ADDRESS.

A. My name is James B. Atkins, and I am the Manager of the Environmental Planning Division in the Richland County Planning and Developmental Services Department. My business address is 2020 Hampton St., Rm 3063A, Columbia, SC 29204.

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND.

A. I received a Bachelors of Science degree in Marine Science from the University of South Carolina in 1976, a Masters of Science degree in Environmental Systems Engineering from Clemson University in 1981, and a Ph.D. in Marine Science from the University of South Carolina in 1998. I am also a certified mediator through the S. C. Council for Conflict Resolution.

Q. PLEASE BRIEFLY DESCRIBE YOUR RELEVANT EXPERIENCE.

A. I have been the Manager of Richland County Environmental Planning Division since December 2010. The Environmental Planning Division provides environmental and conservation program support to the Richland Soil and Water Conservation District, the Richland County Conservation Commission and the Richland County Planning and Developmental Services Department.

From 2004 until 2010, I worked as an independent consultant under contract to the Public Service Commission of South Carolina, the Institute of Public Utilities at Michigan State University and the Critical Infrastructure Protection Program at George Mason University School of Law. My work

1 focused on bulk electric system reliability, critical infrastructure protection
2 policies in the public utility sector, analysis of cost recovery in the electricity
3 industry following the 2004-2005 hurricanes in the Gulf Coast, and the evaluation
4 of State Energy Emergency Response Plans. As part of my work for the Institute
5 of Public Utilities at Michigan State University, I also conducted educational
6 seminars on transmission line siting for Public Utility Commissioners and staff. In
7 September 2005, I was requested by the Federal Energy Regulatory Commission
8 (FERC) to present a seminar to Commission staff entitled "The Application of
9 Interactive Transmission Design Software to the Transmission Line Siting
10 Challenge." Exhibit No. 1. The seminar reviewed the use of geographic
11 information system (GIS) software coupled with a transmission design software
12 package to optimally site and construct transmission lines. The request was in
13 response to the FERC's development of a siting policy to implement National
14 Transmission Corridors designated under the Energy Policy Act of 2005.

15 From 2000 to 2004, I represented the 2nd Congressional District as a
16 member of the Public Service Commission of South Carolina ("Commission")
17 and was a member, and past Vice Chair, of the Energy Resources and
18 Environment Committee of the National Association of Regulatory Utility
19 Commissioners ("NARUC"). I was also a member of the NARUC Board of
20 Directors and served as Chair of the Subcommittee on Administration which
21 oversaw NARUC's research and educational activities. I also represented
22 NARUC as the Eastern U.S. State Regulatory representative on the Planning
23 Committee of the North American Electric Reliability Corporation, and at the side
24 conference on International Clean Energy Collaboration at the 2002 UN
25 Framework Convention on Climate Change, COP-8, in New Delhi, India.

26 Prior to my service on the Commission, I was a Research Associate
27 Professor at the Earth Sciences & Resources Institute at the University of South
28 Carolina from 1996-2000 where my research interests focused on drinking water
29 protection, energy and water optimization modeling, environmental geographic
30 information system (GIS) mapping and environmental mediation. While at the
31 University of South Carolina, I was the Principal Investigator on a multi-year U.S.

1 Department of Agriculture (USDA) project to develop a geographic information
2 system decision support model for siting agricultural facilities to protect drinking
3 water sources. The USDA project employed similar GIS scoring techniques
4 as used by SCE&G in their application. However, in contrast to SCE&G's
5 methodology, the project used dynamic, user-controlled weighting for each
6 category (GIS layer) of interest to the siting problem.

7
8 **Q. WHAT IS THE PURPOSE OF YOUR COMMENTS IN THIS**
9 **PROCEEDING?**

10 A. The purpose of my comments is to provide Richland County's staff review
11 of Exhibit A filed by SCE&G in this proceeding.

12
13 **Q. CAN YOU SUMMARIZE YOUR COMMENTS REGARDING SCE&G'S**
14 **APPLICATION AND EXHIBIT A?**

15 A. Yes. My review of Exhibit A found significant problems with the
16 suitability analysis conducted by SCE&G associated with TMS # R17400-02-
17 04/12/13/14 (Killian's Crossing PDD), TMS #17300-02-10/33 (future Richland
18 County Northeast Sports Complex), TMS#17500-03-66/67 (Richland County
19 Conservation Commission property at Longtown) and TMS#17300-02-35
20 (Richland County Conservation Commission property adjacent to the Northeast
21 Regional Sports Complex). Exhibit No. 2. Based on this analysis, Richland
22 County believes the application filed by SCE&G is erroneous and that the
23 suitability score for SCE&G's preferred alternative Route K is incorrect. In
24 addition, Richland County also questions the validity and fundamental
25 assumptions of the weighting criteria and methodology used by SCE&G to
26 determine the route suitability scores.

27
28 **Q. CAN YOU ELABORATE ON THE SPECIFIC ERRORS YOU**
29 **REFERENCE ABOVE?**

30 A. Killian's Crossing Planned Development District (PDD) - SCE&G's
31 analysis of alternative Route K failed to include the future significant residential

1 and commercial properties originally approved in Ordinance 085-06HR on
2 October 19, 2006, by Richland County Council and as amended on July 22, 2010
3 in Ordinance No. 023-10HR. Exhibit No. 3. Killian's Crossing PDD is a 399 acre
4 development designated as a priority investment area and Urban Village in the
5 Northeast Planning area in the 2009 Richland County Comprehensive Plan. The
6 Killian's Crossing PDD, as approved, will contain a mix of residential,
7 commercial, and civic land uses. Planned residential units include 800 apartments,
8 54 single family homes, 882 townhomes, and 364 independent living units.
9 Planned commercial properties include 1.85 million square feet of retail and
10 office space and 400 hotel rooms. Exhibit No. 4. The Killian's Crossing PDD is
11 correctly shown as an "Urban Village" in SCE&G Exhibit A, Fig. 2.2-11 (Future
12 Land Use), but there is no indication SCE&G placed an appropriate amount of
13 significance on the Urban Village designation in their suitability analysis for
14 Route K under "Land Use Factors" shown in SCE&G Exhibit A, Table 2, Sheet 6
15 of 14. **Without a copy of the Killian' Crossing PDD and Ordinance in-hand**
16 **(Exhibits 3 and 4), SCE&G would have been unable to accurately score the**
17 **suitability of the Killian's Crossing PDD no matter what zoning**
18 **classifications or GIS layers were used by SCE&G in Exhibit A, Fig. 2.2-12,**
19 **Zoning.**

20
21 **Northeast Regional Sports Complex** - While SCE&G correctly
22 identified the future Richland County Northeast Regional Sports Complex
23 parcel(s) zoning as Light Industrial (SCE&G Exhibit A, Fig. 2.2-12, Zoning),
24 SCE&G failed to recognize the future construction and significance of the
25 Complex located along Farrow Road. Exhibit No. 5. As referenced in
26 Councilwoman Hutchinson's testimony, the Northeast Regional Sports Complex
27 will be a major economic driver for Richland County. This property is also not
28 correctly identified for recreational use in SCE&G Exhibit A, Fig. 2.2-11
29 (Community Amenities and Public Infrastructure) and Fig. 2.2-11 (Future Land
30 Use). In apparent contradiction, the property is designated as "Land Dedicated for
31 Public Use" in SCE&G Exhibit A, Fig. 5.5-2. While the land will technically be

1 used by the public, the classification is inconsistent with SCE&G's scoring
2 methodology for "Land Use Factors" shown in SCE&G Exhibit A, Table 2, Sheet
3 6 of 14. For the Route K analysis, these parcels should have been scored under
4 "Acres of RW (both not parallel and parallel to existing RW) across lands used
5 for public recreation" in SCE&G Exhibit A, Table 2, Sheet 6 of 14. **Without a**
6 **copy of the site plan for the sports complex (Exhibit 5) in-hand, SCE&G**
7 **would have been unable to accurately score the suitability of the Northeast**
8 **Regional Sports Complex no matter what zoning classifications or GIS layers**
9 **were used by SCE&G in Exhibit A, Fig. 2.2-12, Zoning.**

10
11 **Richland County Conservation Commission (RCCC) Property near**
12 **Longtown** – The Mungo Company deeded 236.4 acres to the RCCC in March
13 2010. Exhibit No. 6. The area is located along Robert's Branch and is
14 characterized predominately as wetland and riparian habitat. Although not
15 currently in a conservation easement, the intended use of the property is for
16 conservation and passive public recreation. SCE&G indicated the property would
17 be used for conservation in Fig. 2.2-11 (Future Land Use) but failed to score the
18 RCCC property in "Land Use Factors" shown in SCE&G Exhibit A, Table 2,
19 Sheet 6 of 14 under "Acres of RW (parallel to existing RW) across lands
20 dedicated for long-term preservation" for Route K. SCE&G also failed to include
21 the RCCC property as "Land Dedicated for Public Use" in SCE&G Exhibit A,
22 Fig. 5.5-2 which is inconsistent with their designation of the Northeast Sports
23 Complex property as "Land Dedicated for Public Use." **Without meeting with**
24 **the RCCC staff regarding the use of the property, SCE&G would have been**
25 **unable to accurately score the suitability of the RCCC property no matter**
26 **what zoning classifications or GIS layers were used by SCE&G in Exhibit A,**
27 **Fig. 2.2-12, Zoning.**

28
29 **Q. WERE THESE CONCERNS EVER EXPRESSED TO SCE&G?**

30 **A.** Yes. Richland County staff (Mr. Milton Pope, County Administrator, Mr. Sparty
31 Hammett, Assistant County Administrator, Ms. Anna Fonseca, Planning Director,

1 Dr. James B. Atkins, Environmental Planning Division Manager and Ms. Nancy
2 Stone-Collum, Environmental Planning Division) met on July 20, 2011 with Mr.
3 Richard Fletcher, SCE&G Community/Economic Development Representative,
4 Mr. Dwight Lindler, SCE&G Transmission Planning, and Mr. Dwight Hollifield
5 of Pike Energy Solutions. At the meeting, Mr. Hollifield presented a 30-45 minute
6 overview of Exhibit A to Richland County staff. At the meeting, County staff
7 brought to the attention of SCE&G that the zoning for the Killian's Crossing PDD
8 was incorrect and that SCE&G had overlooked the future Northeast Regional
9 Sports Complex. We also discussed the staff's concerns over how various map
10 layer categories were weighted and evaluated within the GIS model. A letter
11 dated August 2, 2011, from Mr. Fletcher to Mr. Pope summarized the meeting,
12 including the County staff's concerns regarding the use of incorrect zoning and
13 land use data. Exhibit No. 7.

14
15 On August 8, 2011, Mr. Pope received an email from Mr. Fletcher
16 providing a detailed chronology of when Pike Energy Solutions obtained zoning
17 data from Richland County and which members of County staff were contacted.
18 Exhibit No. 8. A review of Exhibit 8 shows Pike Energy Solutions' staff based
19 their analysis on zoning data from the Richland County website. The email also
20 indicates the alternative route analysis was completed by June 2010, a year
21 before Richland County staff's first exposure to SCE&G's suitability
22 analysis.

23
24 **Q. WHAT WAS SCE&G'S RESPONSE TO RICHLAND COUNTY STAFF'S**
25 **CONCERNS OVER THE ZONING ERRORS IN THEIR ANALYSIS?**

26 **A.** The next day, August 9, 2011, SCE&G filed their Application with the
27 Commission with the incorrect data in Exhibit A.

28
29 **Q. DOES THE RICHLAND COUNTY WEBSITE CONTAIN A DISCLAIMER**
30 **REGARDING THE USE OF GIS DATA FOUND ON THE WEBSITE?**

31 **A.** Yes. The disclaimer states:

1 This application is a product of the Richland County GIS
2 Department. The data depicted here have been developed with
3 extensive cooperation from other county departments, as well
4 as other federal, state and local government agencies.
5 Reasonable efforts have been made to ensure the accuracy of
6 this map. However, the information presented should be used
7 for general reference only. Richland County expressly
8 disclaims responsibility for damages or liability that may arise
9 from the use of the information presented herein.
10

11
12 **Q. IN RESPONSE TO THE SCE&G ERRORS, DID YOU CONDUCT ANY**
13 **CORRECTIVE ANALYSIS TO SCE&G EXHIBIT A?**

14 **A.** Yes. Since SCE&G failed to respond to Richland County staff's concerns
15 over incorrect data used in their suitability analysis voiced at our July 20, 2011,
16 meeting with SCE&G and Pike Energy Solutions, I conducted a manual
17 recalculation of various suitability layers contained in SCE&G Exhibit A, Table
18 2. Based on the correct land use information referenced in my testimony above, I
19 recalculated what Richland County believes to be the correct suitability scores for
20 all 19 alternative routes in Exhibit A for the following categories - Land Use
21 Factors, Visibility Factors (Public), Visibility Factors (Residential), and Occupied
22 Building Factors.

23
24 The first recalculation included the Land Use Factors and Visibility
25 Factors (Public). I incorporated the correct land use, which is different from the
26 zoning classification, for the Killian's Crossing PDD, the Northeast Regional
27 Sports Complex and the RCCC conservation property at Longtown which were
28 omitted in the SCE&G analysis.

29
30 The second recalculation included Land Use Factors, Visibility Factors
31 (Public), Visibility Factors (Residential), and Occupied Building Factors. This

1 recalculation treats the Killian's Crossing PDD (Single-family residential, multi-
2 family residential and commercial properties) as "occupied".

3
4 It is the opinion of Richland County staff that the Killian's Crossing PDD
5 should have a suitability score equal to any other occupied building because of the
6 imminent construction at the site. Not to include the Killian's Crossing PDD is no
7 different than SCE&G's transmission [bulk electric reliability] planning staff
8 ignoring and not considering the imminent construction of a major facility in
9 Northeast Richland County (i.e. Google). Importantly, siting the transmission line
10 along any of the Killian's Crossing PDD parcel boundaries may preclude the
11 construction of a number of large commercial buildings located in, or close to, the
12 proposed right of way. In fact, SCE&G has already moved the original location of
13 the preferred Route K because SCE&G failed to recognize the route would have
14 taken the transmission line directly over the newly constructed McDaniel's Auto
15 Dealership at the intersection of Killian Road and Clemson Road. To
16 systematically ignore the future location and existence of major planned
17 development, (residential and/or commercial) and recreational facilities, creates
18 potentially-significant negative economic impacts on those investors and Richland
19 County's tax base. Major transmission lines, such as the one proposed by
20 SCE&G, forever constrain current and future zoning, land use, quality of
21 life, and economic development. Therefore, we believe the Commission must
22 require SCE&G to consider these known, and Council-approved,
23 developments as "built and occupied".

24
25 **Q. WHAT WERE YOUR FINDINGS FOR THE LAND USE AND PUBLIC**
26 **VISIBILITY FACTORS RECALCULATION?**

27 **A.** The results of my recalculation (for all 19 alternative routes) are shown in
28 Exhibit 9 which would supplant SCE&G Exhibit A, Table 3, Siting Study Route
29 Evaluation Summary Sheet. Due to the significant number of residential (single-
30 family and multi-family) and commercial properties planned in the Killian's
31 Crossing PDD, and the conservation preservation value of the RCCC property at

1 Longtown, the Land Use Factors scores are increased for Route K (lower
2 suitability score). It is important to understand the consideration of the Killian's
3 Crossing PDD is not dependent upon the current existence of these buildings, but
4 were added under the category "Acres of RW not parallel and adjacent to existing
5 utility or railroad RW across lands that are 1) recorded residential subdivisions
6 (developed or undeveloped)..." The scores for the Public Visibility Factors of the
7 Northeast Regional Sports Complex also increase due to the significant number of
8 visitors which will frequent the Northeast Regional Sports Complex. As a result,
9 SCE&G preferred Route K moves from first (1st) to eight (8th) in suitability.
10 Route G becomes the preferred alternative route followed closely by Route H.

11
12 **Q. WHAT WERE YOUR FINDINGS FOR THE LAND USE, PUBLIC**
13 **VISIBILITY, RESIDENTIAL VISIBILITY AND OCCUPIED BUILDINGS**
14 **FACTORS RECALCULATION?**

15 **A.** As discussed above, it is the opinion of Richland County staff that
16 Killian's Crossing PDD should have a suitability score equal to any other
17 occupied building because of the imminent construction at the site. Based on this
18 opinion, I recalculated (for all 19 alternative routes) all the above referenced
19 factors as though Killian's Crossing PDD will be constructed as approved in
20 Ordinance No. 023-10HR by Richland County Council, as will the Northeast
21 Regional Sports Complex. As a direct result of the significant number of
22 residential (single-family and multi-family) and commercial properties planned in
23 the Killian's Crossing PDD, the "Occupied Buildings Factors" and "Residential
24 Visibility Factors" scores increase significantly (lower suitability score) for Route
25 K and all other proposed routes which abut the Killian's Crossing PDD. The
26 recalculated SCE&G Exhibit A, Table 3, Siting Study Route Evaluation Summary
27 Sheet is shown in Exhibit 10. As a result, SCE&G's preferred Route K moves
28 from first (1st) to eighteenth (18th) in suitability. Route L becomes the preferred
29 alternative followed closely by Routes P and S, all of which cross perpendicular
30 to Killian/Clemson Roads and proceed in a generally southern direction along
31 Farrow Road to the existing SCE&G Killian's substation.

1
2 **Q. PREVIOUSLY IN YOUR TESTIMONY, YOU MENTIONED RICHLAND**
3 **COUNTY HAD QUESTIONS REGARDING THE VALIDITY AND**
4 **FUNDAMENTAL ASSUMPTIONS OF THE WEIGHTING CRITERIA**
5 **AND METHODOLOGY USED BY SCE&G TO DETERMINE THE**
6 **ROUTE SUITABILITY SCORES. CAN YOU ELABORATE ON YOUR**
7 **CONCERNS?**

8 **A.** Yes. SCE&G goes to great lengths to account for and compute the various
9 suitability factors (SCE&G Exhibit A, Table 2). Individual weights are applied to
10 each factor and then multiplied by the raw scores (number of acres of RW,
11 number of occupied buildings, etc.) to compute a weighted score. These are then
12 summed and normalized as explained in SCE&G Exhibit A, pp. 15-18 and as
13 summarized in SCE&G Exhibit A, Table 3.

14
15 However, the SCE&G methodology is fatally flawed because each major
16 factor (Cultural Resource Factor, Occupied Buildings Factor, etc.) shown in
17 SCE&G Exhibit A, Table 3 is not weighted after all the individual scores are
18 computed. In other words, each category has an equal weight (weight=1). By not
19 weighting each factor category against other categories (Cultural Resource
20 Factors verses Occupied Buildings Factors) after computing the normalized
21 scores, categories with little "raw data" become equally as important as other
22 categories with lots of raw data. As a result, the final score for each route is
23 skewed or biased and not representative of the "most suitable" route.
24 Further, it fails to give the appropriate significance to major factors which
25 influence the suitability of a route (i.e. numerous residential homes,
26 numerous commercial properties, significant and numerous wetlands
27 impacts, etc.).

28 **Q. CAN YOU PROVIDE AN EXAMPLE FROM EXHIBIT A TO**
29 **ILLUSTRATE THE FLAW?**

30 **A.** The best example concerns the Cultural Resource Factor category. Please
31 refer to SCE&G Exhibit A, Table 3. For all 19 route alternatives, there were only

1 three scores within this category – 0.0, 4.0 and 10.0. In SCE&G Exhibit A, Table
2 2, Sheet 2 of 14, the first Cultural Resource factor is “Number of recorded
3 archeological sites in the RW that may be disturbed by line construction (NRHP,
4 Eligible for NRHP, Potentially Eligible, Eligibility Undetermined).” Examining
5 the individual factor scores for Route L, Route P and Route S shows one recorded
6 archeological site along each route. These routes are the same along this section
7 of Farrow Road and each crosses over the same archeological site. Referring to
8 Appendix D of Exhibit A, pp. 33-36, the archeological site in question is
9 38RD1243, a **potentially-eligible** brick kiln located along Farrow Road.
10 Multiplied by the weight of 10, the total normalized score becomes 10 for Route
11 L, Route P and Route S since 10 is the largest weighted score for any of the 19
12 routes under the Cultural Resource factor.

13
14 Now please look at SCE&G Exhibit A, Table 2, Sheet 10 of 14, the last
15 column, Route S. For Route S, a total of 960 **occupied buildings** were located
16 along Route S with a total weighted category score of 4,786. This results in a total
17 normalized category score of 10.0 for Route S as seen in SCE&G Exhibit A,
18 Table 3. Therefore, using SCE&G’s methodology to compute the suitability of a
19 given route, one **potentially-eligible** archeological site equals 960 occupied
20 buildings. Applying SCE&G’s methodology to a more urban setting, one
21 **potentially-eligible** archeological site would equal 100,000 occupied buildings.
22 Not only is the use of equal weight categories in SCE&G’s methodology
23 inconsistent with good GIS decision support practice, the methodology loses sight
24 of all common sense when attempting to site a transmission line through an urban
25 or urbanizing area such as northeast Richland County. It is also inconsistent with
26 the stakeholder meetings conducted by SCE&G where 70-80 percent of the public
27 stated residential property values and residential visibility factors were the most
28 important considerations in siting the transmission line. Refer to SCE&G Exhibit
29 A, Appendix B. **Because of this fatal flaw, the Commission should reject**
30 **outright SCE&G’s methodology and application as submitted, and require**

1 submittal of a corrected, modified application which uses both scientifically-
2 defensible and common-sense siting principles.

3
4 **Q. DOES RICHLAND COUNTY HAVE CONCERNS REGARDING**
5 **SCE&G'S VISUAL IMPACT METHODOLOGY?**

6 A. Yes. Richland County strongly disagrees with SCE&G's conclusion
7 (SCE&G Exhibit A, p. 85) that "the additional impact on visual effects (i.e. future
8 conditions compared to current conditions) of the VCS1-Killian 230 kV line,
9 Option 1 or Option 2, will be low due to the utilization of existing right-of-way
10 and replacement of existing lines." Specifically, Option 1 fails to accurately
11 characterize and quantify the negative visual impacts to the public along the
12 Interstate I-77 and Killian/Clemson Roads gateway and Priority Investment Area
13 anchored by the Killian's Crossing PDD, multi-million dollar investment by the
14 McDaniel's Auto Group and other soon-to-be-built commercial buildings adjacent
15 to preferred Route K.

16
17 Both Farrow Road, and especially Killian/Clemson Roads, are located on
18 a topographic high with significant public visibility of the preferred line Route K.
19 Refer to SCE&G, Exhibit A, Fig. 2.2-5. Photo documentation of Killian/Clemson
20 Roads shows expansive visibility from both the public roads and from within the
21 Killian's Crossing PDD. Exhibit No. 11. In addition, most of the existing trees
22 will be removed within the Killian's Crossing PDD and significant earth moving
23 will occur on the site adjacent to Farrow Road. Therefore, the topography and
24 vegetation studies conducted by SCE&G referenced at the bottom of SCE&G
25 Exhibit A, p. 84 are incorrect for the Killian's Crossing PDD. Richland County
26 also believes SCE&G should have examined current and projected traffic counts
27 along Killian/Clemson Roads to determine the visual effects of preferred Route K.
28 One has only to look at the significant traffic count at Village of Sandhill, the
29 other anchor Priority Investment Area on Clemson Road, to understand the
30 importance of traffic count to visual impact.

1 **Q. DOES RICHLAND COUNTY HAVE CONCERNS REGARDING**
2 **SCE&G'S SCORING METHODOLOGY FOR THE OCCUPIED**
3 **BUILDINGS FACTORS CATEGORY?**

4 **A.** Yes. Richland County believes the Occupied Buildings Factors categories
5 for commercial buildings fail to accurately quantify the negative impacts to
6 current and ordinance-approved commercial properties and economic
7 development in Richland County. Referring to SCE&G Exhibit A, Table 2, Sheet
8 10 of 14, the impacts to commercial buildings are quantified by "the number of
9 commercial buildings" within some distance of the transmission line. This
10 technique is used because the GIS program can "automatically count" the number
11 of commercial building within some distance of the transmission line.
12

13 However, in an urbanized setting such as Northeast Richland County, not
14 all commercial buildings are of equal value. One has to merely examine the
15 assessed value of buildings from the Richland County Assessor's Office. For
16 example, a convenience store does not have the economic importance to Richland
17 County from property or sales taxes as a major retailer such as Lowes or the
18 McDaniel's Auto dealerships on Killian/Clemson Roads. However, SCE&G's
19 methodology treats the convenience store and Lowes the same. The value of
20 commercial property methodology should likewise be applied to the soon-to-be
21 significant commercial development at the Killian's Crossing PDD. A similar
22 value scoring methodology could also be made for residential property categories
23 in the Occupied Building Factors category.
24

25 In such an urbanized setting, Richland County believes SCE&G must
26 look more closely at the available data regarding property values, as opposed
27 to simply counting the number of commercial or residential buildings within
28 some distance of the transmission line. Some suitability scoring evaluations
29 cannot be solely handled via the GIS mapping interface but instead require
30 review of detailed files managed by local governments so that SCE&G and

1 the Commission can fully understand the full implications of a proposed
2 route.

3
4 **Q. WHAT ARE YOU REQUESTING OF THE COMMISSION REGARDING**
5 **SCE&G'S APPLICATION?**

6 **A.** Richland County is respectfully requesting the Commission to order the
7 following of SCE&G:

8
9 (1) To work with Richland County staff to obtain the correct zoning, land
10 use data, and other important economic data maintained by Richland
11 County for the various transmission line alternative routes;

12
13 (2) To give appropriate consideration to the importance Richland County
14 places on various suitability factors consistent with Richland County's
15 Land Development Code and Council-approved ordinances;

16
17 (3) To add weighting capability for each major category and to conduct a
18 sensitivity analysis of the weighting criteria using both scientifically-
19 defensible and common-sense weighting criteria; and

20
21 (4) To re-run their siting analysis taking these factors into account and
22 resubmit the analysis to Richland County and the Commission.

23
24 Until such work is completed by SCE&G, Richland County believes SCE&G's
25 application and proposed Route K does not conform to Richland County's Land
26 Development Code and specific ordinances approved by County Council. Further,
27 SCE&G filed their application knowing the information used to develop their
28 suitability analysis was incorrect. In the absence of the above, we respectfully
29 request you deny SCE&G's application for a Certificate of Environmental
30 Compatibility and Public Convenience and Necessity for the proposed
31 transmission line.

1

2 **Q. DOES THAT CONCLUDE YOUR TESTIMONY?**

3 **A.** Yes it does. Thank you Mr. Chairman and Commissioners.



think in balance



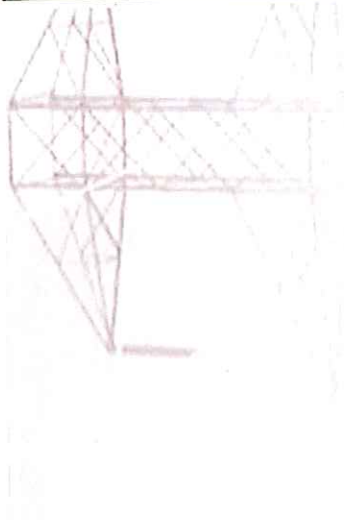
Regulatory Heuristics

The Application of Interactive Transmission Design Software to the Transmission Line Siting Challenge

Fred Behrmann, P.E., Pondera Engineers, LLC
James B. Atkins, Ph.D., Regulatory Heuristics, LLC

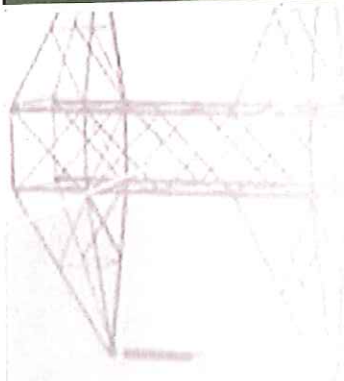
Federal Energy Regulatory Commission
September 21, 2005

**Why is the time right for the
development and implementation
of a unified transmission design
and siting decision support tool?**



Federal Legislative Requirements

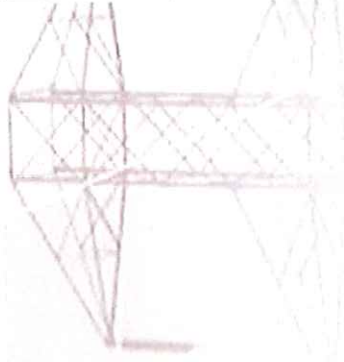
- Section 1221, Subtitle B of the Energy Policy Act of 2005
 - Reduce transmission congestion in interstate commerce
 - Economically feasible design alternatives
 - Minimize environmental and visual impact
 - Open comment process on the need for and impact of a [transmission] facility



Increased Transmission Investment

Despite the past downward investment trend in transmission prior in the 1980's and 90's, a recent [Edison Electric Institute](#) study indicates that from 1999 to 2003, annual transmission investment by investor-owned utilities and transmission-owning companies increased 12 percent annually totaling nearly \$18 billion over the period. These companies are also planning to invest an additional \$28 billion in transmission infrastructure from 2004-2008.

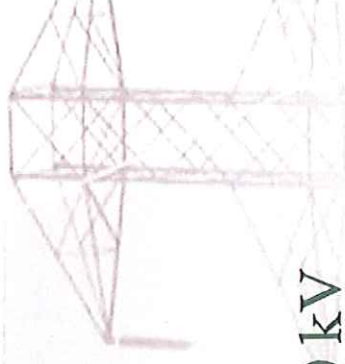
Edison Electric Institute Survey of Transmission Investment, Historical and Planned Capital Expenditures, 1999-2008, May 2005.



Increased Transmission Construction

- More than 7,122 miles of new transmission (230 kV and above) are proposed to be added through 2009
- About 12,484 miles will be added from 2005–2014 or a 5.9% increase in the total miles of installed extra high voltage (EHV) transmission lines (230 kV and above)
- Transmission adequacy will also be increased by upgrading or replacing existing lower capacity transmission lines to increase capacity and reliability.

Long Term Reliability Assessment, NERC, September 2005.



Increased Transmission Construction

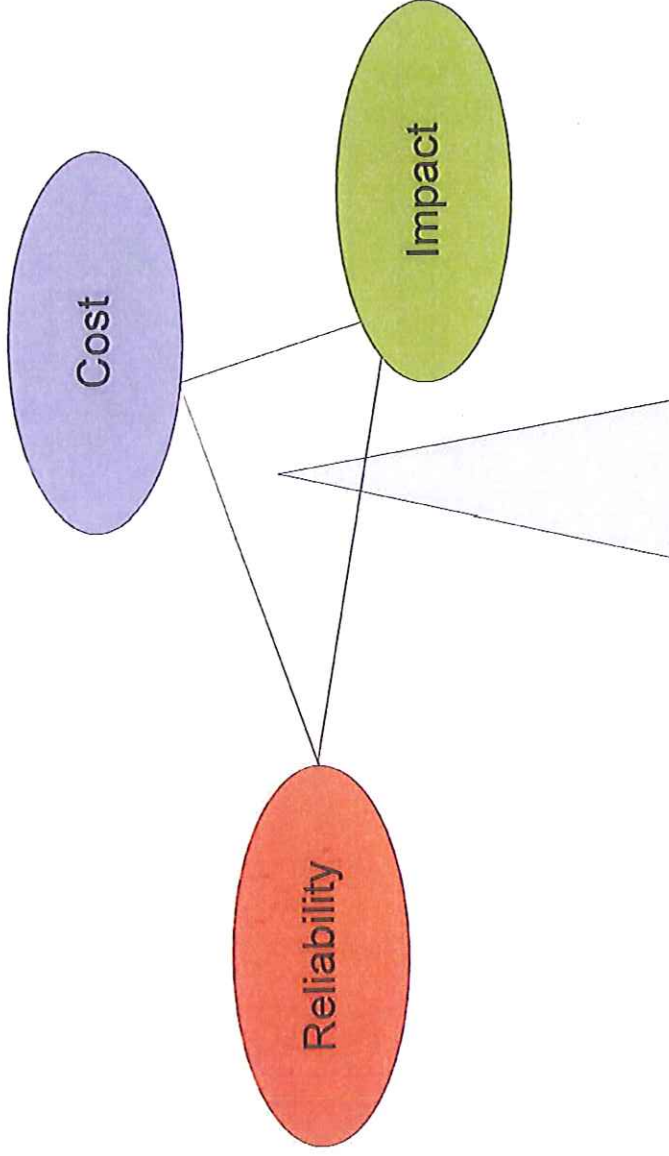
Table 3: Planned Transmission

Transmission Circuit Miles — 230 kV and Above*				
	2004 Existing	2005-2009 Additions	2010-2014 Additions	2014 Total Installed
ECAR	16,490	221	0	16,711
FRCC	6,898	360	81	7,339
MAAC	7,057	134	0	7,191
MAIN	6,201	523	234	6,958
MAPP-U.S. (MRO)	14,715	384	423	15,522
MAPP-Canada	6,662	96	872	7,630
NPCC-U.S.	6,406	384	110	6,900
NPCC-Canada	28,961	375	335	29,671
SERC	28,945	1,210	815	30,970
SPP	9,955	14	21	9,990
Eastern Interconnection	132,290	3,701	2,891	138,882
WECC-U.S.	58,231	2,291	2,083	62,605

Long Term Reliability Assessment, NERC, September 2005.

Fundamentals of Sound Design

- The Balancing Act

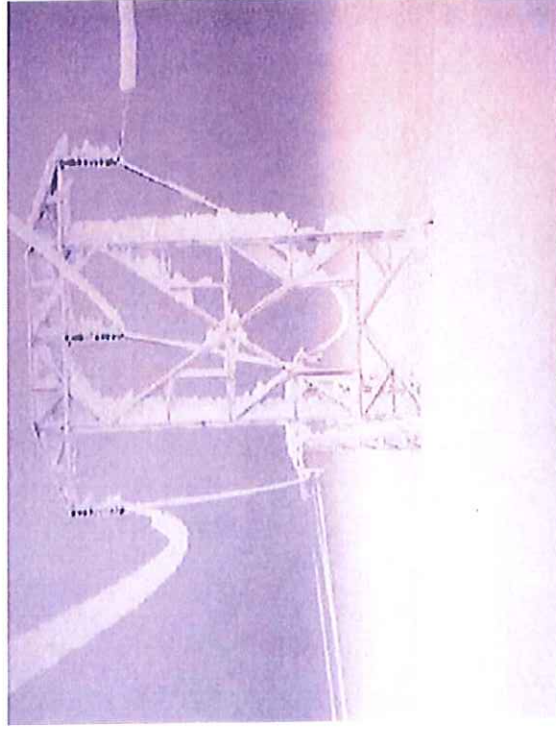


Pondera's TL-Pro Design Studio

- A state of the art, comprehensive overhead line design software solution
- Provides the ability to evaluate and compare cost, reliability, and impact
- Manage multiple design options quickly and efficiently
 - Route, design criteria, structure types
- Global optimal structure spotting for “best cost” design
- Visual and interactive to facilitate communication between stakeholders
- Robust and sound engineering analysis capability
- Ability to model enormous terrain areas
- Open data format to take advantage of available information
- Flexible to accommodate any design methodology
- A tool to enable interactive, real-time assessment of tradeoffs between design reliability, cost, and environmental and societal impacts

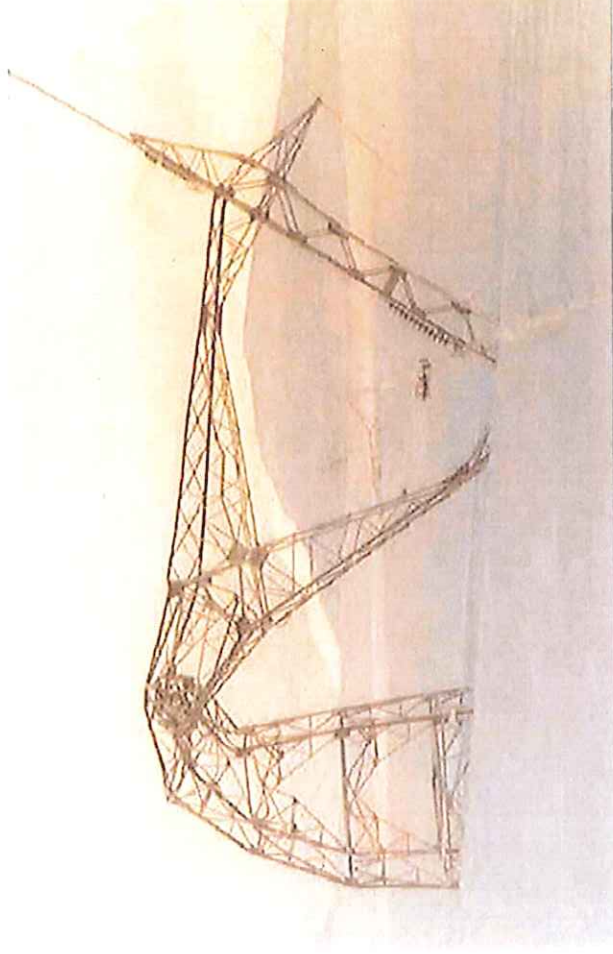
Factors that Affect Cost

- Electrical capacity
 - Conductor size
 - Voltage
 - Number of circuits
 - Operating temperature
- Strength
 - Wind
 - Ice
 - Safety factors
- Route
 - Length
 - Access
 - ROW cost
 - Permitting
 - Site conditions



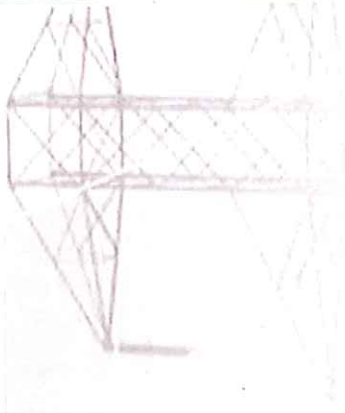
Factors that Affect Reliability

- Design criteria
 - Wind
 - Ice
 - Structure type
- Route
 - Emergency access
 - Weather exposure



Benefits of Optimal Design

- *Optimum* design requires *consistent* application of design criteria
 - Requires computerized methods
 - “*Optimized*” structure spotting
- More cost DOES NOT guarantee more reliability
- Cost and reliability are generally related, but...
 - *Non-optimal* designs are always more expensive or less reliable than *optimal* designs, often both



Social and Environmental Impact Factors

- Route Location
 - Single largest & most subjective factor
- Route Attributes and Factors
 - Property location and value
 - Physical
 - Biological
 - Historical & cultural
 - Social & economic
 - User specified

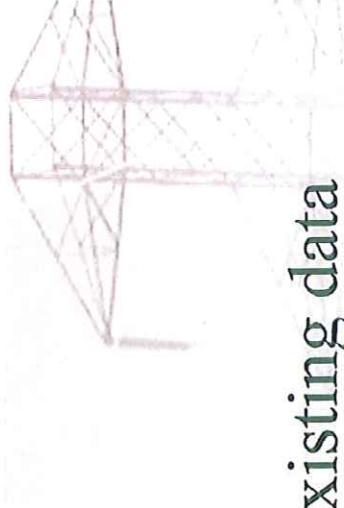
Technology Requirements

- Evaluate and compare cost, reliability, and impact
- Manipulate multiple design options quickly and efficiently
 - Route
 - Design criteria (conductor, wind, ice, etc.)
 - Structure types
- Ability to model large terrain areas
- Visual, interactive, and easy to use
- Ability to facilitate communication with stakeholders
- Open data format (input & output)
- Robust and sound engineering design capability



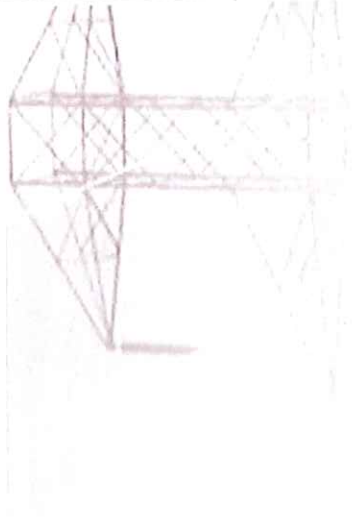
Data Sources and Utilization

- Vital that organizations leverage existing data resources for design and siting
- Land use data
 - GIS
 - Utility
 - Municipality
 - Environmental groups
 - TIGER data
 - Aerial photos
 - Digital elevation model (DEM)

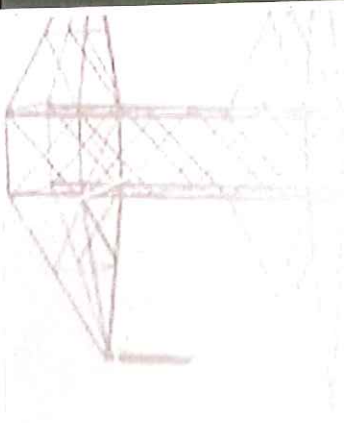
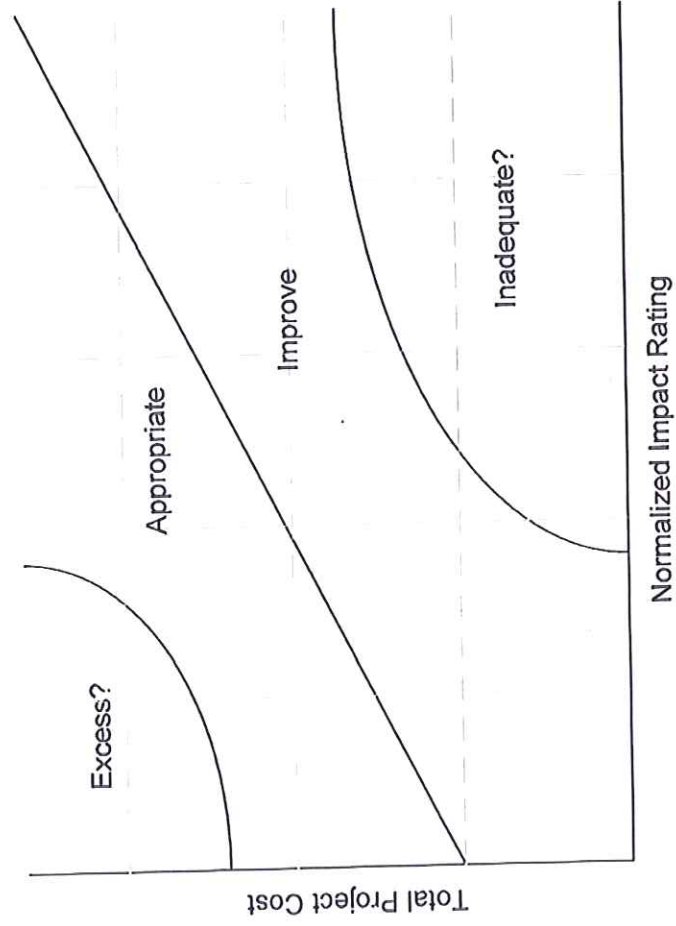


Impact Scoring Objective

- Need single analytical tool
 - Quantifiable
 - Efficient & fast
 - Interactive & flexible
- Single or multi-objective criteria analysis
 - Flexible weighting criteria to evaluate varied stakeholder concerns
 - Develop quantifiable impact score for comparison to the optimized cost
 - Interactive evaluation of alternatives via an impact vs. optimized cost surface



Impact vs. Optimized Matrix

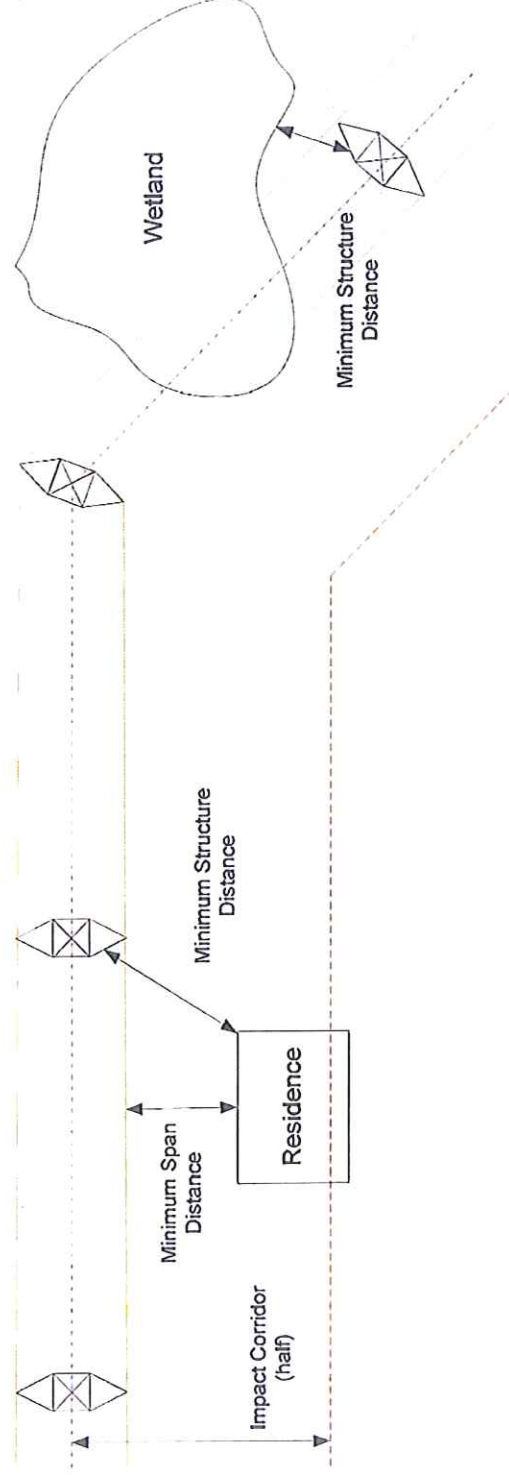


Impact Scoring Techniques (cont.)

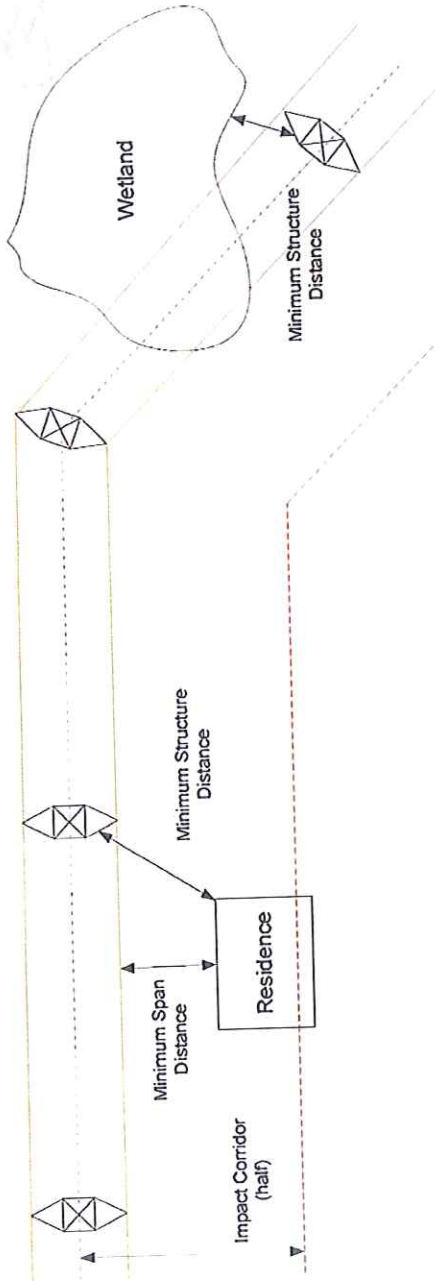
- Process
 - Determine “baseline” cost
 - Define weighting criteria and factors
 - Social
 - Economic
 - Environmental
 - Determine normalized impact rating
 - Normalize impact score for each impacted component
 - Sum total normalized score for each category
 - Apply category weighting factor
 - Sum categories to calculate impact rating for option
 - Compare alternatives

Impact Scoring Definitions

- Minimum structure distance
- Minimum span distance
- Impact corridor width



Impact Scoring Example

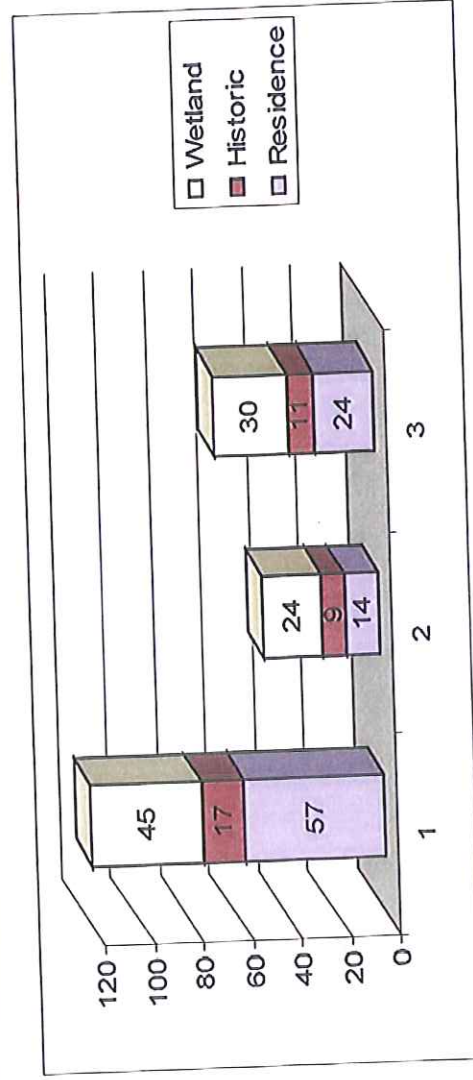


Impact Factors	Weight		Span	
	Structure		Weight	
Residences	50%		30%	
Historic Sites	20%		50%	
Wetlands	30%		0%	

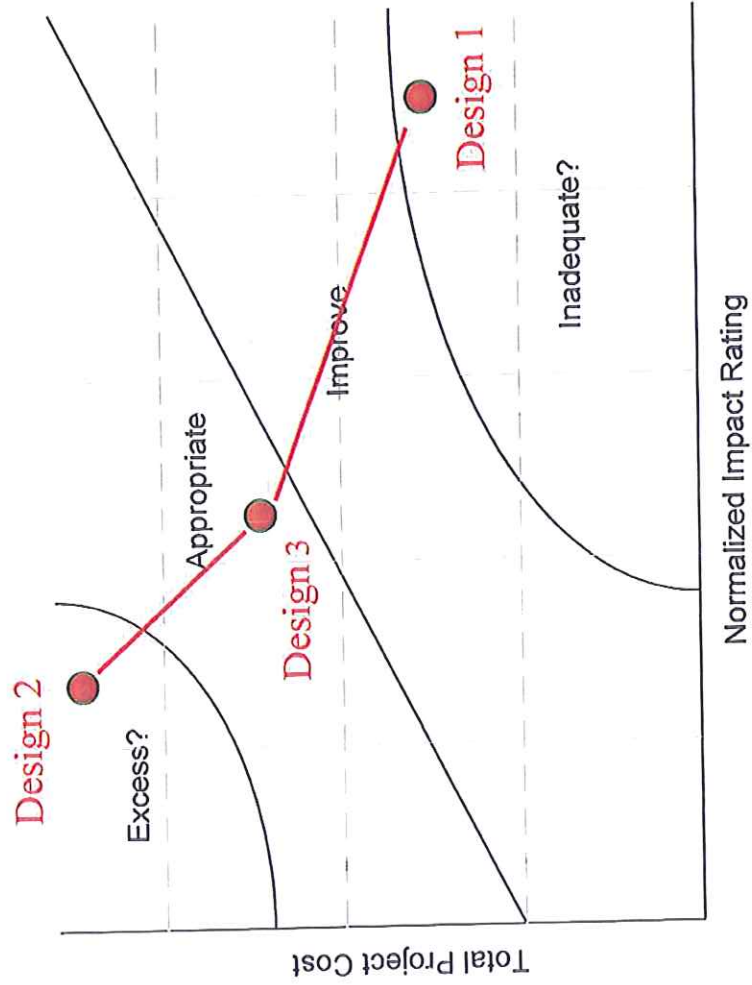
Impact Corridor Width: 1,000 ft

Impact Scoring Summary

	Cost	Residence Impact	Historic Impact	Wetland Impact	Total Impact
Design 1	\$10M	57	17	45	119
Design 2	\$20M	14	9	24	47
Design 3	\$14M	24	11	30	65

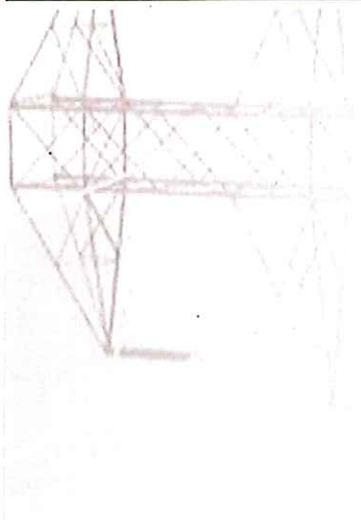


Impact Scoring Summary

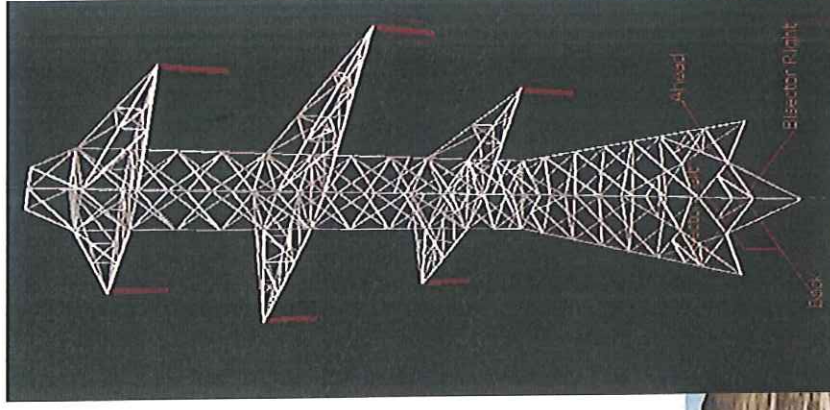
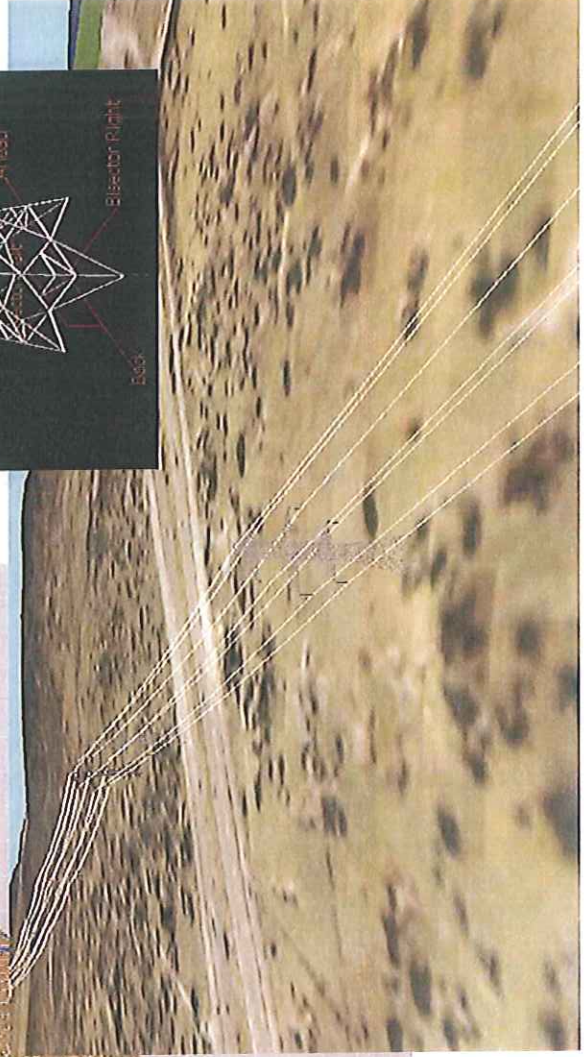
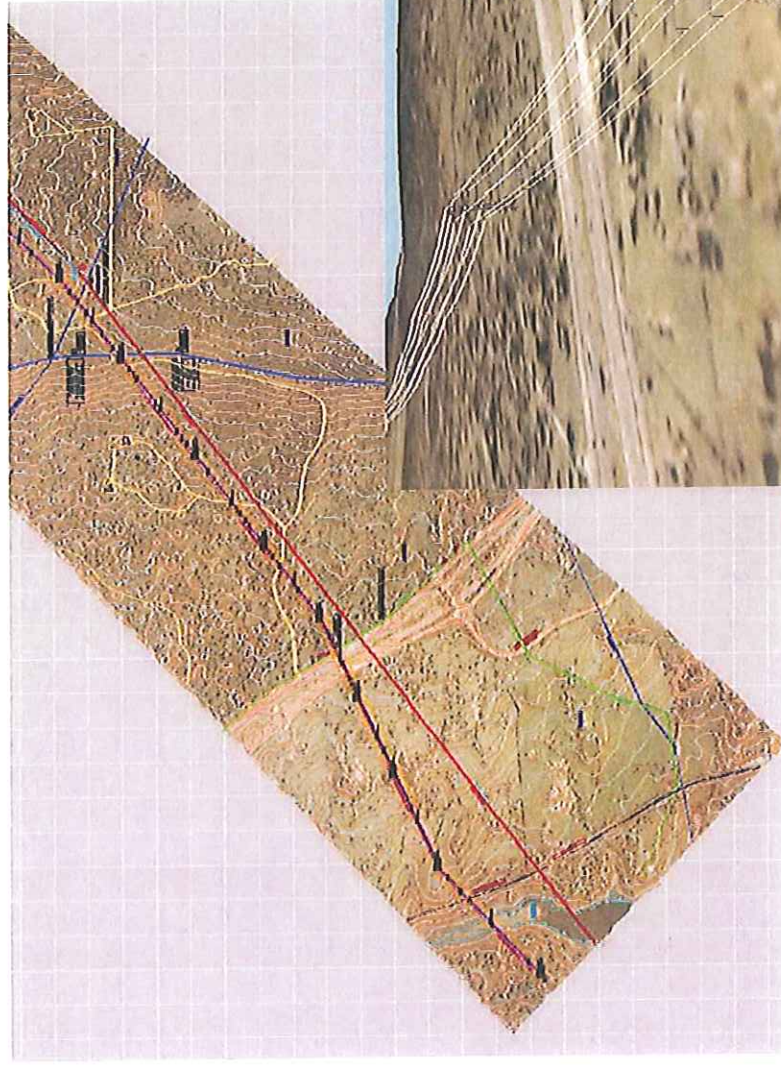


Pondera Case Studies

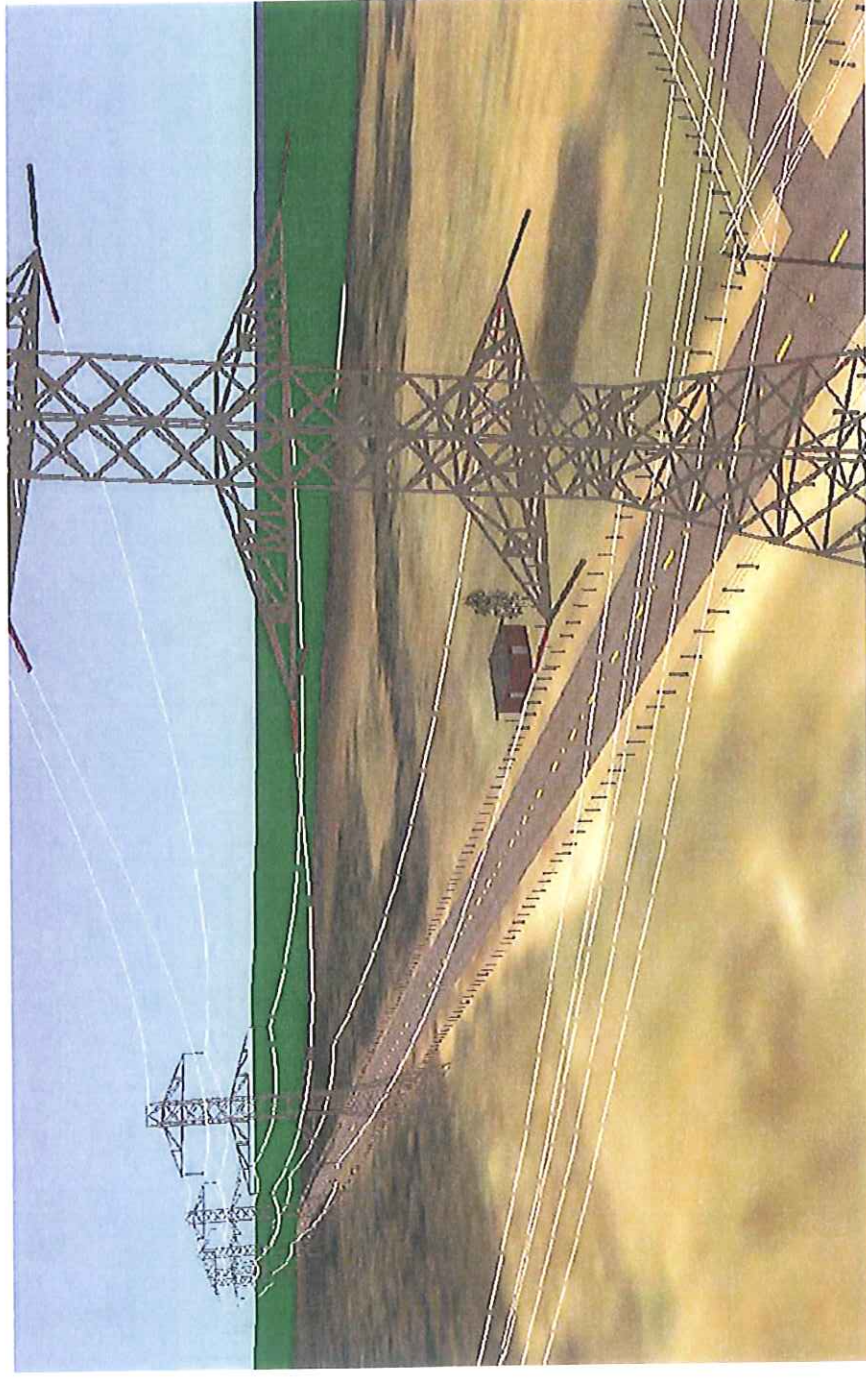
- Spain
 - Federal transmission siting authority
 - Large, regional stakeholders
 - Substations and transmission lines considered in comprehensive approach
- Australia
 - No Federal authority
 - Local “environmental working groups” for all lines 11kV and above
 - Smaller, localized stakeholders
 - Substations and transmission lines completely separate



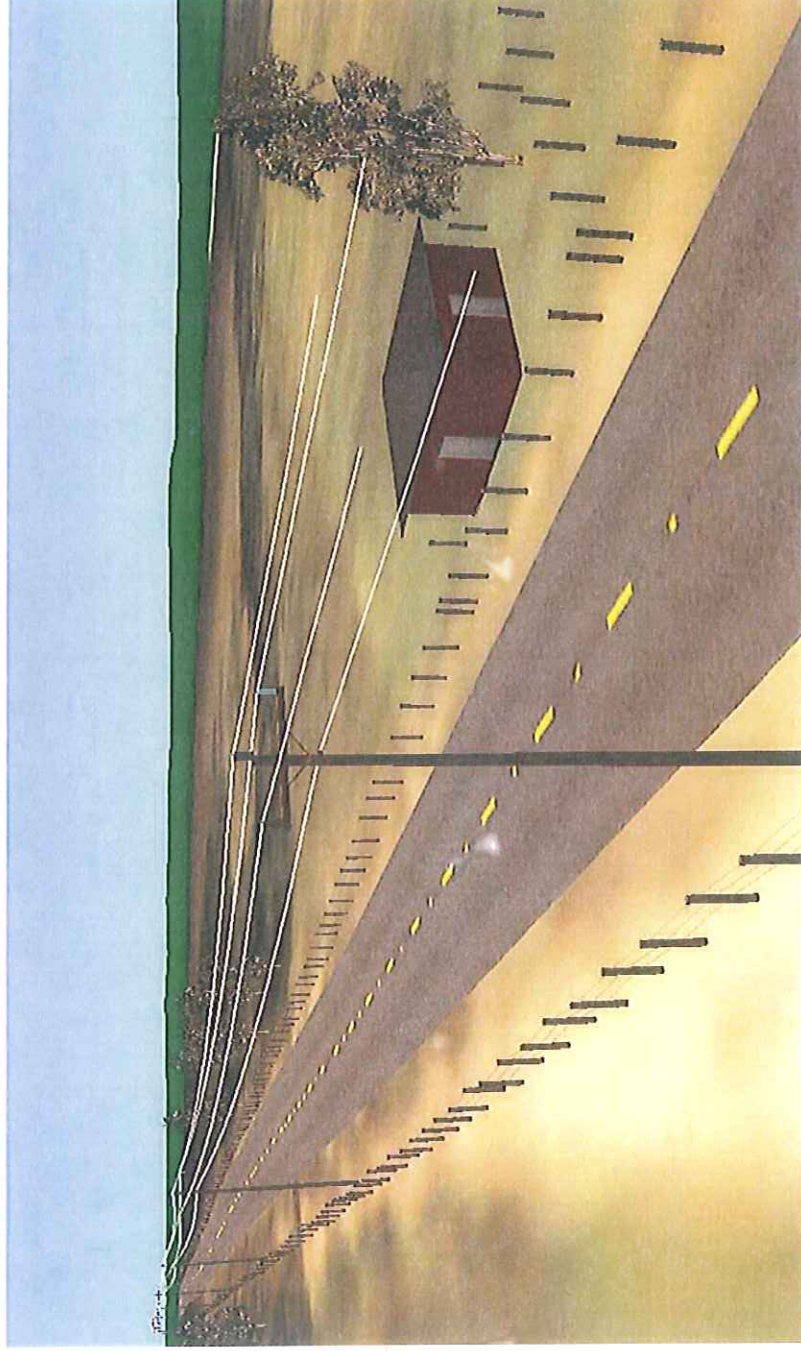
Case Study 1

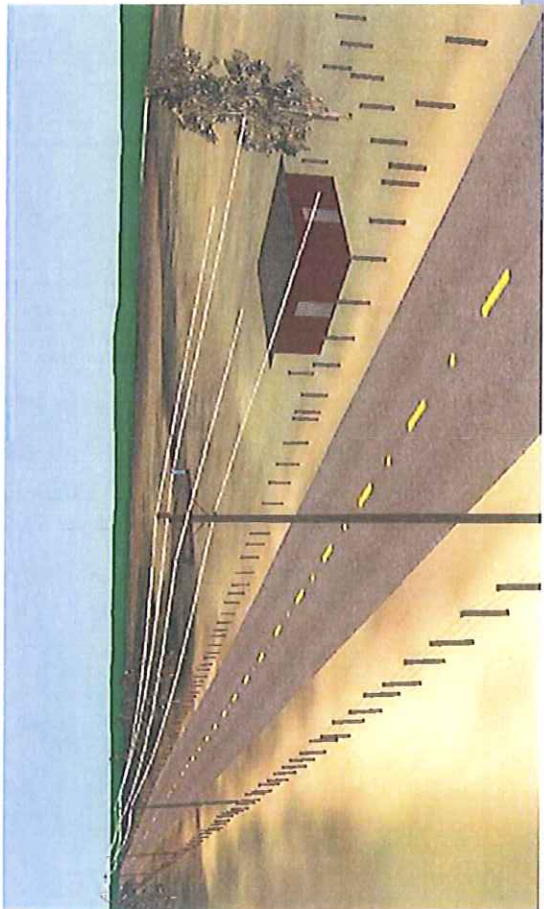
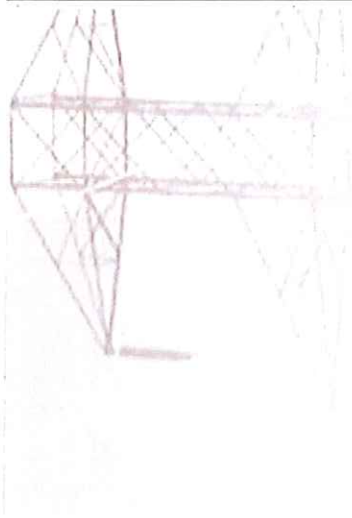
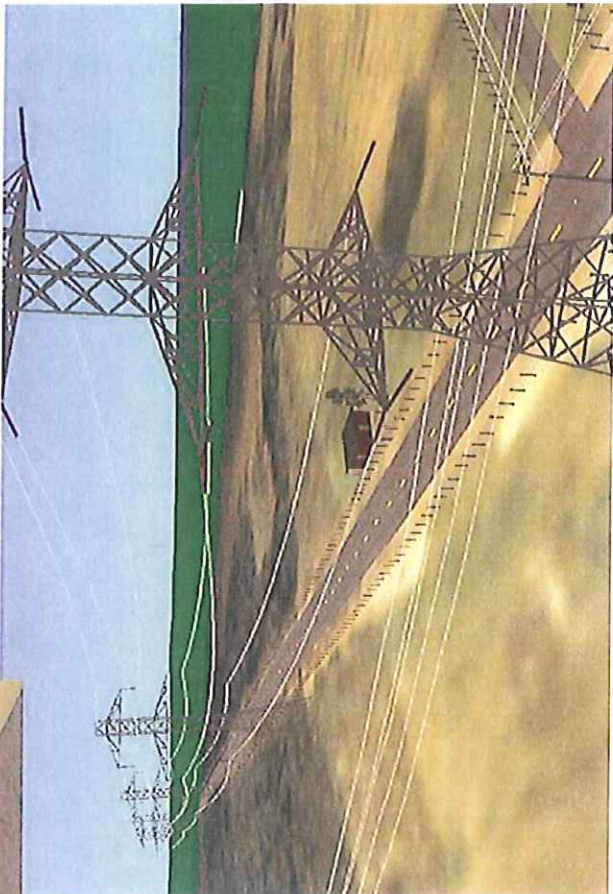


Case Study 2 – Landowner's Expectation

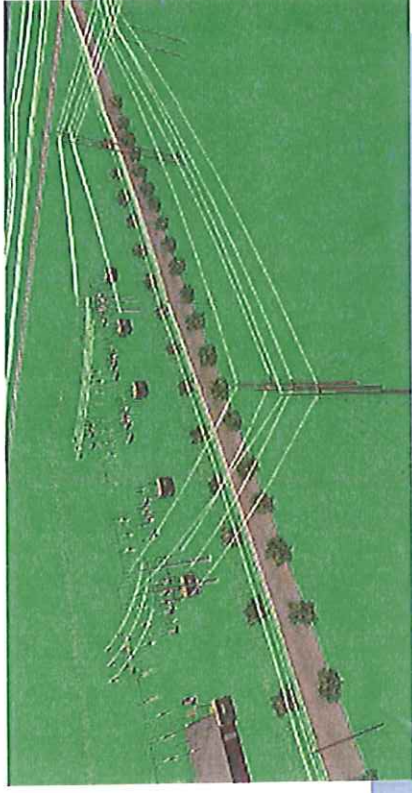


Case Study 2 – Actual Proposal





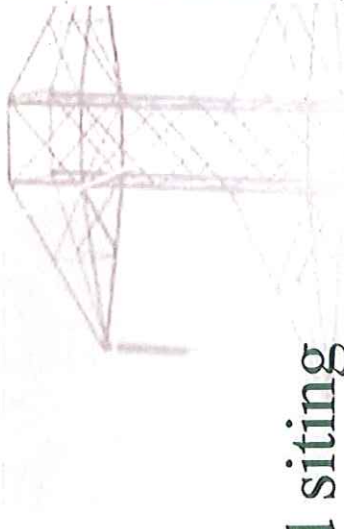
Comprehensive Siting Substation & Transmission



Conclusion

A unified transmission design and siting decision support tool is needed:

- To give appropriate weight and consideration to non-commensurate economic and environmental siting goals
- To enable interactive, real-time assessment of the tradeoffs between transmission design feasibility, cost, and the environmental and societal impacts
- As a technical-based mediation and alternative dispute resolution (ADR) technique to resolve difficult siting matters





think in balance



Fred Behrmann, P.E.
Pondera Engineers, LLC

Spokane Intercollegiate Research &
Technology Institute (SIRTI)
665 North Riverpoint Blvd.
Spokane, WA 99202

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Regulatory
Heuristics

Regulatory Heuristics



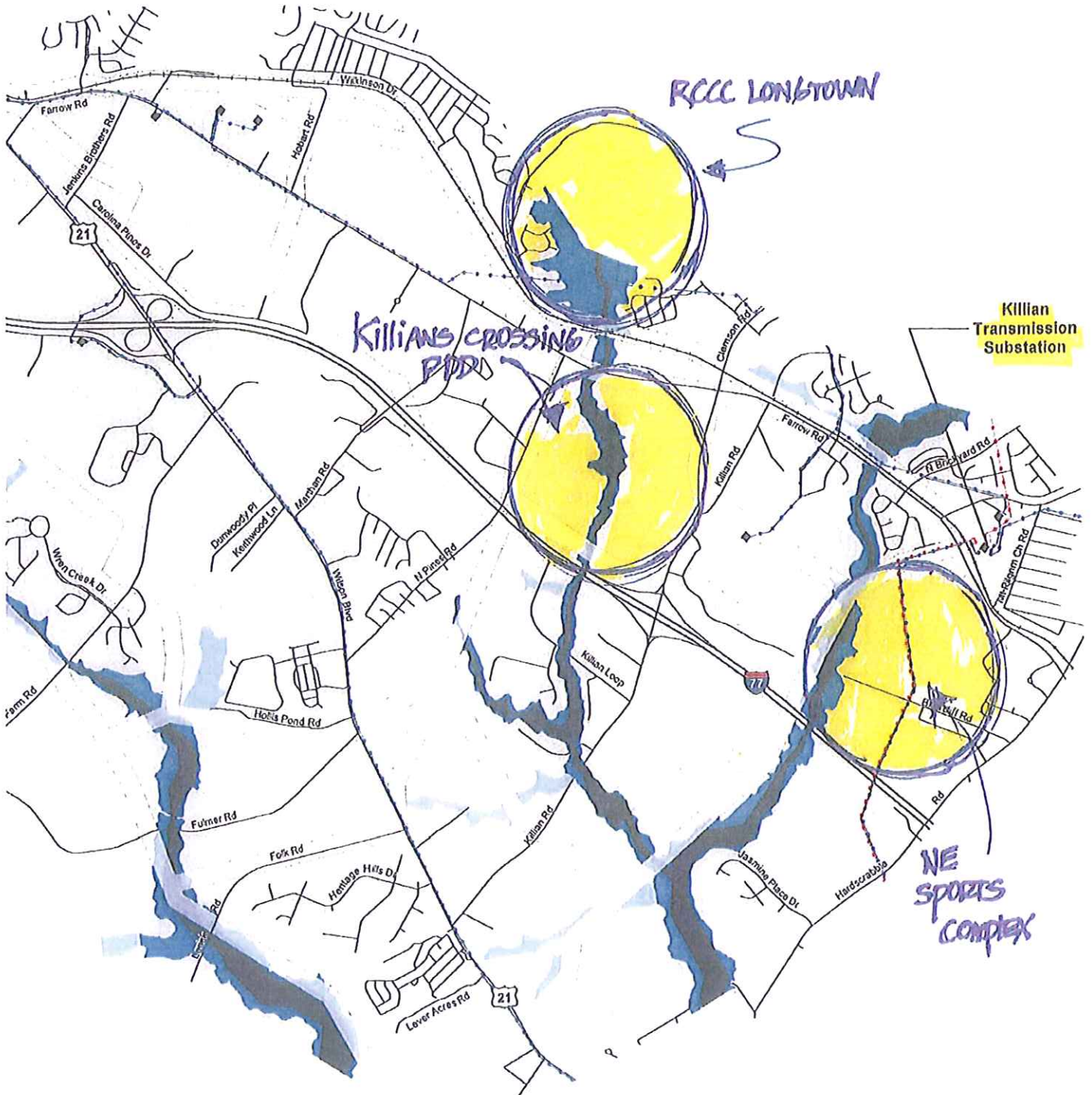
James B. Atkins, Ph.D.
Regulatory Heuristics, LLC

2 New Grant Court
Columbia, SC 29209

(803) 776-3459
heuristics@bellsouth.net



ATKINS EXHIBIT 2



Book 12 Page 118

STATE OF SOUTH CAROLINA
COUNTY COUNCIL OF RICHLAND COUNTY
ORDINANCE NO. 023-10HR

AN ORDINANCE OF THE COUNTY COUNCIL OF RICHLAND COUNTY, SOUTH CAROLINA, AMENDING THE ZONING MAP OF UNINCORPORATED RICHLAND COUNTY, SOUTH CAROLINA, TO CHANGE THE ZONING DESIGNATION FOR THE REAL PROPERTIES DESCRIBED AS TMS # 17400-02-04/12/13/14 FROM PDD (PLANNED DEVELOPMENT DISTRICT) TO AN AMENDED PDD (PLANNED DEVELOPMENT DISTRICT) AND GC (GENERAL COMMERCIAL); AND PROVIDING FOR SEVERABILITY AND AN EFFECTIVE DATE.

Pursuant to the authority granted by the Constitution of the State of South Carolina and the General Assembly of the State of South Carolina, BE IT ENACTED BY RICHLAND COUNTY COUNCIL:

Section I. The Zoning Map of unincorporated Richland County is hereby amended to change the properties described as TMS # 17400-02-04/12/13/14 from PDD (Planned Development District) zoning to an amended PDD (Planned Development District) zoning (398.66 acres) and to GC (General Commercial District) zoning (17.29 acres), as described herein and shown on Exhibit "A", which is attached hereto.

Section II. PDD Site Development Requirements. The following site development requirements shall apply to the subject parcels zoned to the amended PDD District:

- a) The applicant shall comply with the Master Plan (entitled, "Vision & Design Guidelines", submitted to Richland County on February 26, 2010) prepared for Killian's Crossing by DCG Development, which is on file in the Richland County Planning & Development Services Department (hereinafter PDSD), and is incorporated herein by reference, except as otherwise amended herein; and
- b) The site plan is attached hereto as Exhibit "B"; and
- c) The applicant shall transmit a phasing plan to the PDSD prior to the Department's review of any construction plans; and
- d) A traffic impact assessment shall be submitted at the time of major subdivision or major land development submission; and
- e) Unless otherwise provided herein, all development shall conform to all current relevant land development regulations; and
- f) Proposed changes to the Master Plan shall be subject to the requirements of Section 26-59(j)(1) of the Richland County Land Development Code; and
- g) All development on this site shall meet or exceed the minimum standards of Chapter 26 of the Richland County Code of Ordinances for landscape/tree protection standards due to the impact on neighboring properties; and
- h) The applicant shall dedicate to Richland County right-of-way along Clemson Road, Killian Road, and Farrow Road within the project boundaries in order to address traffic concerns, and this dedication shall be submitted prior to recording any bonded plats or land development approval for the project; and
- i) All internal streets shall be privately owned; and
- j) Access to the subject site shall conform to the Master Plan unless public safety issues are determined during site specific development review; and
- k) The applicant shall install a right turn (deceleration) lane and a left turn lane at the Farrow Road entrance; and
- l) Transit facilities shall be provided for all neighborhoods within the PDD dedicated for public and school access; and
- m) The developer should consider developing a plan for dedicating land for a school site for an "on-site" elementary school or possibly a satellite facility for Midland Technical College; and
- n) The developer should consider a plan for a public safety, postal, and/or civic facility; and
- o) If applicable, prior to approval of the preliminary subdivision plans, the applicant shall submit to the PDSD written evidence of:
 - a. The U.S. Army Corps of Engineers' approval of the wetlands delineation and/or encroachment permit, and

- b. FEMA's approval of the 100 year flood elevation statement; and
- p) The applicant shall consider utilizing "Low Impact Design (LID)" or other acceptable stormwater management technologies; and
- q) Richland County shall not be responsible for the enforcement of any deed restrictions imposed by the applicant, the developer, or their successors in interest; and
- r) All site development requirements described above shall apply to the applicant, the developer, and/or their successors in interest; and

Section III. If any section, subsection, or clause of this Ordinance shall be deemed to be unconstitutional, or otherwise invalid, the validity of the remaining sections, subsections, and clauses shall not be affected thereby.

Section IV. All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

Section V. This ordinance shall be effective from and after May 18, 2010.

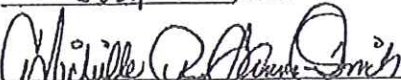
RICHLAND COUNTY COUNCIL

By:

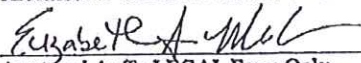

Paul Livingston, Chair

Attest this 22nd day of

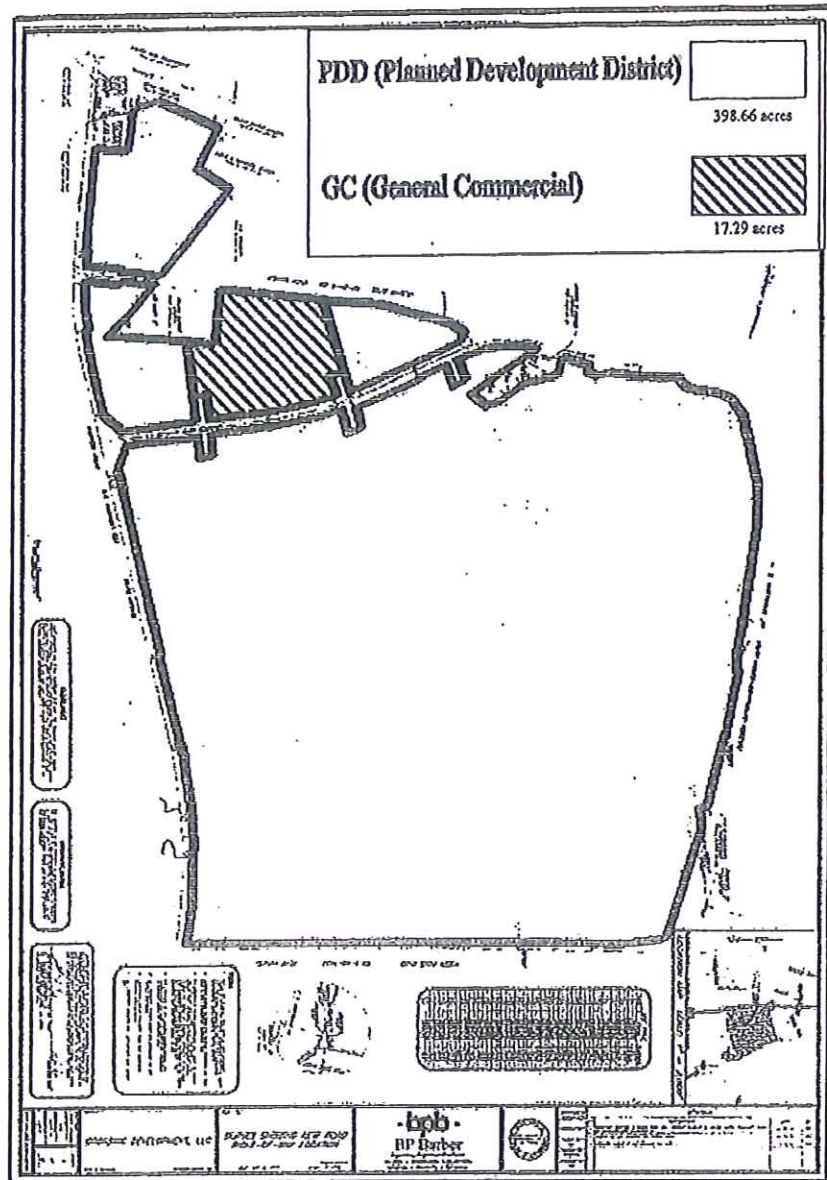
July, 2010.

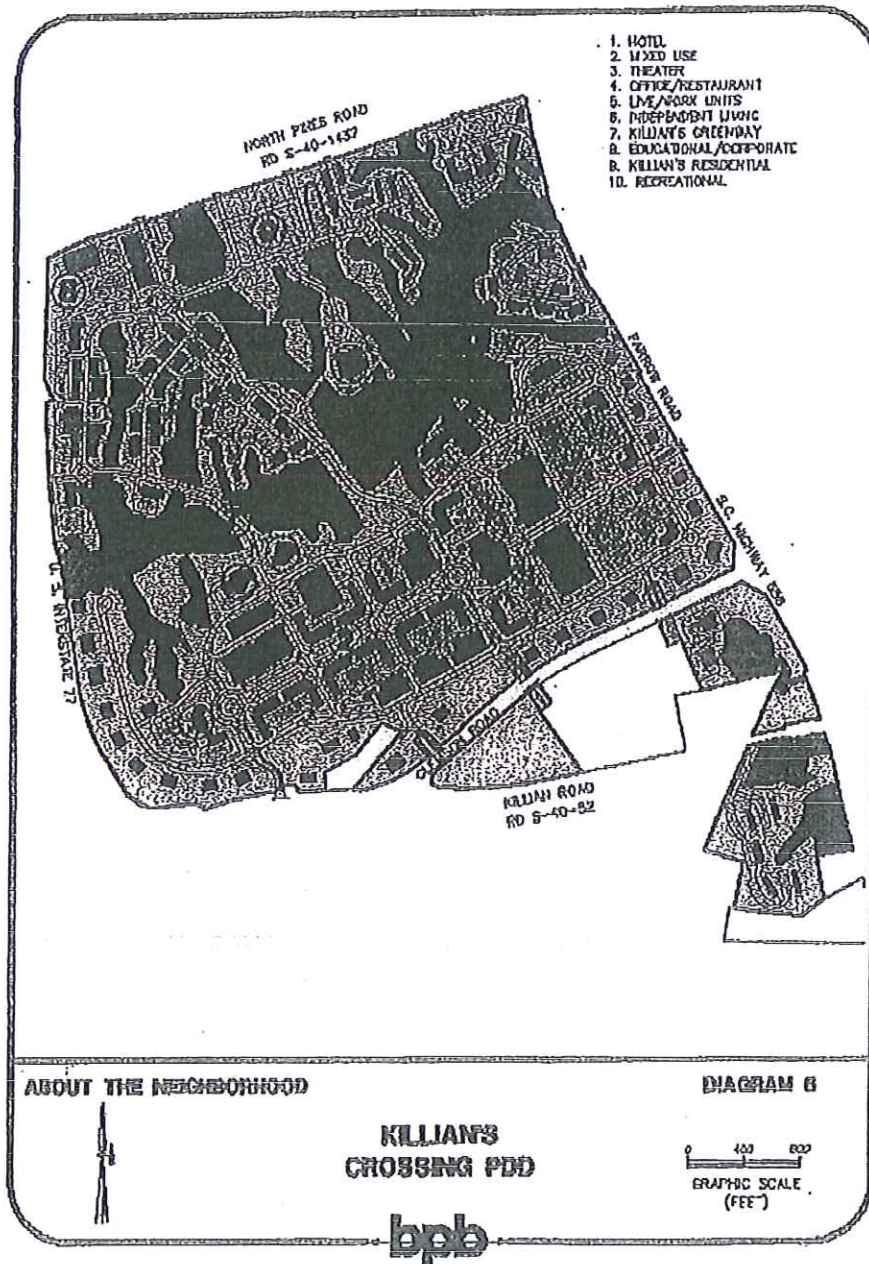

Michelle R. Cannon-Kuehl
Clerk of Council

RICHLAND COUNTY ATTORNEY'S OFFICE


Approved As To LEGAL Form Only
No Opinion Rendered As To Content

Public Hearing: April 27, 2010
First Reading: April 27, 2010
Second Reading: May 4, 2010
Third Reading: May 18, 2010







**Richland County
Planning & Development Services Department**

Map Amendment Staff Report

PC MEETING DATE:	April 5, 2010
RC PROJECT:	10-03 MA
APPLICANT:	Matthew Congdon
PROPERTY OWNER:	Crossing Development, LLC
LOCATION:	NE Quadrant of I-77 and Killian Road
TAX MAP NUMBER:	17400-02-04, 17400-02-12, 17400-02-14, and 17400-02-13
ACREAGE:	415.95
EXISTING ZONING:	PDD
PROPOSED ZONING:	PDD and GC
PROPOSED ACREAGE:	398.66 (PDD) 17.29 (GC)
PC SIGN POSTING:	March 12, 2010

Staff Recommendation

Approval

Background /Zoning History

The current zoning, Planned Development District (PDD) reflects the zoning as approved under 06-28MA (Ordinance 085-06HR) on October 19, 2006. The site has frontage along Farrow Road, North Pines Road, Clemson Road and Killian Road.

Summary

The Planned Development (PDD) District is intended to allow flexibility in development that will result in improved design, character, and quality of new mixed-use developments, and that will preserve natural and scenic features of open spaces. Planned Development Districts must involve innovation in site planning for residential, commercial, institutional, and/or industrial developments within the district. Such developments must be in accordance with the comprehensive plan for the county, and in doing so, may provide for variations from the regulations of the county's zoning districts concerning use, setbacks, lot size, density, bulk, and other such requirements.

The General Commercial (GC) District is intended to accommodate a variety of commercial and nonresidential uses characterized primarily by retail, office, and service establishments and oriented primarily to major traffic arteries or extensive areas of predominantly commercial usage and characteristics.

No minimum lot size, except as required by DHEC. The maximum allowed density for residential uses is sixteen (16) dwelling units per acre.

Existing Zoning		
<u>North:</u>	RU	Residences
<u>South:</u>	HI, RU	Automotive Dealership, Vacant and undeveloped Heavy Industrial land.
<u>East:</u>	HI	Numerous Businesses and undeveloped land
<u>West:</u>	NA	I-77

Plans & Policies

The 2009 Richland County Comprehensive Plan "Future Land Use Map" designates this area as a Priority Investment Area and Urban Village in the Northeast Planning Area.

Priority Investment Area

Objective: "Residential housing should be varied at moderate to high densities (4-16 dwelling units per acre). Residential developments are encouraged to contain a deliberate mix of residential, commercial, and civic uses and should include affordable housing."

Compliance: The proposed development will contain mixed uses with a range of housing opportunities.

Urban Village

Objective: "Housing types should be varied, at densities greater than eight dwelling units per acre. Residential areas are encouraged containing a mix of residential, commercial, and civic land uses. Multifamily may be used as a compatible high density development."

Compliance: The proposed development will contain mixed uses with a range of housing opportunities. These include 800 apartment units, 54 single family homes, 882 townhomes, 364 independent living units in addition to possible live work units.

The proposed Amendment is in compliance with the 2009 Richland County Comprehensive Plan.

Traffic Impact

The 2008 SCDOT traffic count Station # 285, is east of the site on Farrow Road. The Average Daily Traffic (ADT's) is 7,400. Farrow Road is classified as a two lane Undivided Collector, maintained by SCDOT with a design capacity of 8,600 ADT's. Farrow Road is currently functioning at the designed roadway capacity and operating at a Level of Service (LOS) "C".

Conclusion

The proposed zoning would compliment the surrounding land uses and would ultimately have a substantial impact on public services and traffic.

The proposed General Commercial parcel has frontage along (744.73) feet of frontage along Killian Road, and nine hundred and seventy seven (977.15) feet of frontage along Clemson Road making this site appropriate for general commercial uses.

The PDD proposes eight hundred (800) apartment units, fifty four (54) single family homes, eight hundred and eighty two (882) townhomes, and three hundred and sixty four (364) independent living units. The total number of residential units proposed is 2100 units. The commercial component of the proposed PDD will allow for four hundred (400) hotel rooms, five hundred thousand (500,000) square feet of office space, a fifty thousand (50,000) square feet theater, and one million three hundred thousand (1,300,000) square feet of retail. The total square footage of retail for the proposed development is one million eight hundred and fifty thousand (1,850,000) square feet.

The residential component of the project includes seventy two (72) acres of residential development that accounts for eighteen (18%) percent of the total acreage. The commercial component includes two hundred and twenty two point ten (220.10) acres and fifty five point two (55.2 %) percent of the total acreage. The green space component encompasses ninety six point seventy two (96.72) acres or twenty four point three (24.3 %) percent of the total acreage. The common space component of the project includes nine point ninety seven (9.97) acres or two point five (2.5 %) percent of the total acreage.

The proposed amendment will reduce the acreage of the PDD from 415.95 acres to 398.66 acres. The reduction in acreage would not reduce the number of dwelling units or the commercial square footage.

The identified Killian's Crossing green space acreage includes 96.27 acres of lakes, buffers, wetlands, and open space. The proposed development is centered around eighty five (85) acres of open space including a 17.11 acre lake. Approximately 25% of the development is reserved for open space.

The most southern parcel of the PDD is contiguous to fire station "Killian" number 27 on Farrow Road. The fire station contains six full time staff with 20 volunteers. There are three fire hydrants located along North Pines Road, four fire hydrants located along Farrow Road, and five located along Killian Road. Long Leaf Middle school is .6 miles east of the site while Killian Elementary school is .9 miles from the subject parcel. Water and sewer service will be provided by the City of Columbia.

The proposed rezoning request is compatible with the surrounding land uses. Planning Staff recommends Approval of this map amendment.

PROPOSED PDD CONDITIONS

- a) The Applicant shall transmit a phasing plan to the Department prior to reviewing any construction plans.
- b) A traffic impact assessment shall be submitted at the time of major subdivision or major land development submission.
- c) All development shall conform to all current relevant land development regulations.
- d) Planned development regulations require development to adhere to landscape, parking and pedestrian regulations namely, Sections 26-173, 26-176, and 26-179 for minimum standards. Richland County encourages this development to exceed these minimum standards.

- e) Proposed changes to the approved Master Plan described below are termed major changes and shall be subject to the requirements of Section 26-59 (j) (1) of the Richland County Land Development Code.
- f) The Applicant shall dedicate to Richland County right-of-way along Clemson, Killian and Farrow Road within the project boundaries in order to address traffic recommendations. This dedication would be required to be submitted prior to recording any bonded plats or land development approval for the project.
- g) All internal streets shall be privately owned.
- h) Access to the subject site shall conform to proposed design unless public safety issues are present at the site specific development review.
- i) The Applicant shall install a right turn (deceleration) lane and a left turn lane at the Farrow Road entrance.
- j) Transit facilities shall be provided for all neighborhoods within the PDD dedicated for public and school access.
- k) The developer should consider developing a plan for dedicating land for a School site for an "on site elementary school", possibly a satellite facility of Midland Technical College.
- l) The developer should consider including a plan for a public safety, postal, and/or civic use.
- m) The Department shall receive the written US Army Corps of Engineers approval of the wetlands delineation and/or encroachment permit prior to approval of the preliminary subdivision plans.
- n) The Department shall receive the written FEMA approval of the 100 year flood elevation statement prior to approval of the preliminary subdivision plans.
- o) The applicant shall consider utilizing "Low Impact Design (LID)" or other acceptable stormwater management technologies.
- p) Richland County shall not be responsible for the enforcement of any deed restrictions imposed by the applicant, the developer, or their successors in interest.
- q) All the conditions described herein shall apply to the applicant, the developer and/or their successors in interest.

Zoning Public Hearing Date

April 27, 2010

STATE OF SOUTH CAROLINA
COUNTY COUNCIL OF RICHLAND COUNTY
ORDINANCE NO. 085-06HR

BARBARA
C.C.C.
2006 OCT 20
OFFICE

AN ORDINANCE OF THE COUNTY COUNCIL OF RICHLAND COUNTY, SOUTH CAROLINA, AMENDING THE ZONING MAP OF UNINCORPORATED RICHLAND COUNTY, SOUTH CAROLINA, TO CHANGE THE ZONING DESIGNATION FOR THE REAL PROPERTIES DESCRIBED AS TMS # 17400-02-04 AND TMS # 17400-10-02 FROM HI (HEAVY INDUSTRIAL DISTRICT) AND M-1 (LIGHT INDUSTRIAL DISTRICT) TO PDD (PLANNED DEVELOPMENT DISTRICT); AND PROVIDING FOR SEVERABILITY AND AN EFFECTIVE DATE.

WHEREAS, Article VIII of the South Carolina Constitution and Section 4-9-30 of the Code of Laws of South Carolina (the Home Rule Act) gives Richland County broad authority to provide a variety of services and functions within its jurisdiction, including, but not limited to, land use planning and land development regulation, and similar activities and services; and

WHEREAS, Title 6, Chapter 29, of the Code of Laws of South Carolina provides the statutory enabling authority for Richland County to engage in planning and regulation of development within its jurisdiction; and

WHEREAS, Section 6-29-720 of the Code of Laws of South Carolina requires the County to adopt the Land Use Element of its Comprehensive Plan in conformance with the requirements therein as a prerequisite to continuing implementation of its zoning authority; and

WHEREAS, the County Council adopted a Comprehensive Plan on May 3, 1999, in conformance with the requirements Title 6, Chapter 29, of the Code of Laws of South Carolina; and

WHEREAS, Section 6-29-760 of the Code of Laws of South Carolina provides the statutory authority and process to amend the Zoning Ordinance, codified as Chapter 26 of the Richland County Code of Ordinances; and

WHEREAS, this Ordinance complies with the requirements of Section 6-29-760 of the Code of Laws of South Carolina and the ordinance adoption process proscribed in Section 2-28 of the Richland County Code of Ordinances.

NOW, THEREFORE, pursuant to the authority granted by the Constitution and the General Assembly of the State of South Carolina, BE IT ENACTED BY THE RICHLAND COUNTY COUNCIL:

Section I. The Zoning Map of unincorporated Richland County is hereby amended to change the properties described as TMS # 17400-02-04 and TMS # 17400-10-02, from HI (Heavy Industrial District) and M-1 (Light Industrial District) zoning to PDD (Planned Development District) zoning.

Section II. PDD Site Development Requirements. The following site development requirements shall apply to the subject parcels:

- a) The applicant shall comply with the Master Plan prepared by DCG Development Overcash / Demmitt Architects, which was submitted to, and is on file in, the Richland County Planning & Development Services Department (hereinafter referred to as "PDSD"), and is incorporated herein by reference, except as otherwise amended herein; and
- b) The site development shall be limited to specific numbers and distribution of unit types, and to specific square footage for commercial and retail uses, all as depicted in Exhibit A, which is attached hereto; and
- c) Should the applicant decide to develop the site in phases, a phasing plan must be provided to the PDSD prior to the department's review of any construction plans or site specific plans; and
- d) Unless otherwise provided herein, all development shall conform to all relevant land development regulations in effect at the time a permit application is received by the PDSD; and
- e) Development of this project shall conform to the minimum landscape (Section 26-176), parking (Section 26-173), and pedestrian (Section 26-179) regulations of the Richland

- County Code of Ordinances, and the developer is further encouraged to exceed these minimum standards; and
- f) Exhibit A, which is attached hereto, constitutes the applicant's Sketch Plan for subdivision purposes, and is hereby approved for such purposes; and
 - g) Proposed changes to the Master Plan shall be subject to the requirements of Section 26-59(j)(1) of the Richland County Land Development Code; and
 - h) The applicant shall dedicate to Richland County certain right-of-ways along Clemson, Killian, and Farrow Roads, within the project boundaries, at the time of subdivision review and prior to recording any plats for the project; and
 - i) All internal streets shall be privately maintained; and
 - j) Access to the subject site shall conform to the proposed design included in the Master Plan, unless public safety issues are present at the site development review; and
 - k) The applicant shall install right turn and left turn (deceleration) lanes at the Farrow Road entrance into the project, which meets the requirements of the South Carolina Department of Transportation; and
 - l) Transit facilities shall be provided for all neighborhoods with the PDD and shall be dedicated for public and school access; and
 - m) The developer should consider developing a plan for the dedication of land for a school site, possibly for an on-site elementary school or for a satellite facility of Midlands Technical College; and
 - n) The developer should consider including a plan for public safety, postal, and/or civic use facilities; and
 - o) Prior to approval of the preliminary subdivision plans, the applicant shall submit to the PDSD written evidence of:
 - a. The U.S. Army Corps of Engineers' approval of the wetlands delineation and/or encroachment permit, and
 - b. FEMA's approval of the 100 year flood elevation statement; and
 - p) The applicant shall attempt to utilize "Low Impact Design (LID)" or other acceptable stormwater management technologies; and
 - q) Richland County shall not be responsible for the enforcement of any deed restrictions imposed by the applicant, the developer, or their successors in interest; and
 - r) All site development requirements described above shall apply to the applicant, the developer, and/or their successors in interest.

Section III. If any section, subsection, or clause of this Ordinance shall be deemed to be unconstitutional, or otherwise invalid, the validity of the remaining sections, subsections, and clauses shall not be affected thereby.

Section IV. All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

Section V. This ordinance shall be effective from and after September 19, 2006.

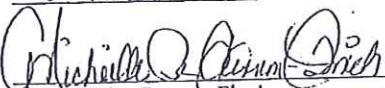
RICHLAND COUNTY COUNCIL

By: 

Anthony G. Mizzell, Chair

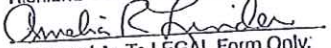
Attest this 19th day of

October, 2006.



Michelle R. Cannon-Finch
Clerk of Council

Richland County Attorney's Office


Approved As To LEGAL Form Only:
No Opinion Rendered As To Content.

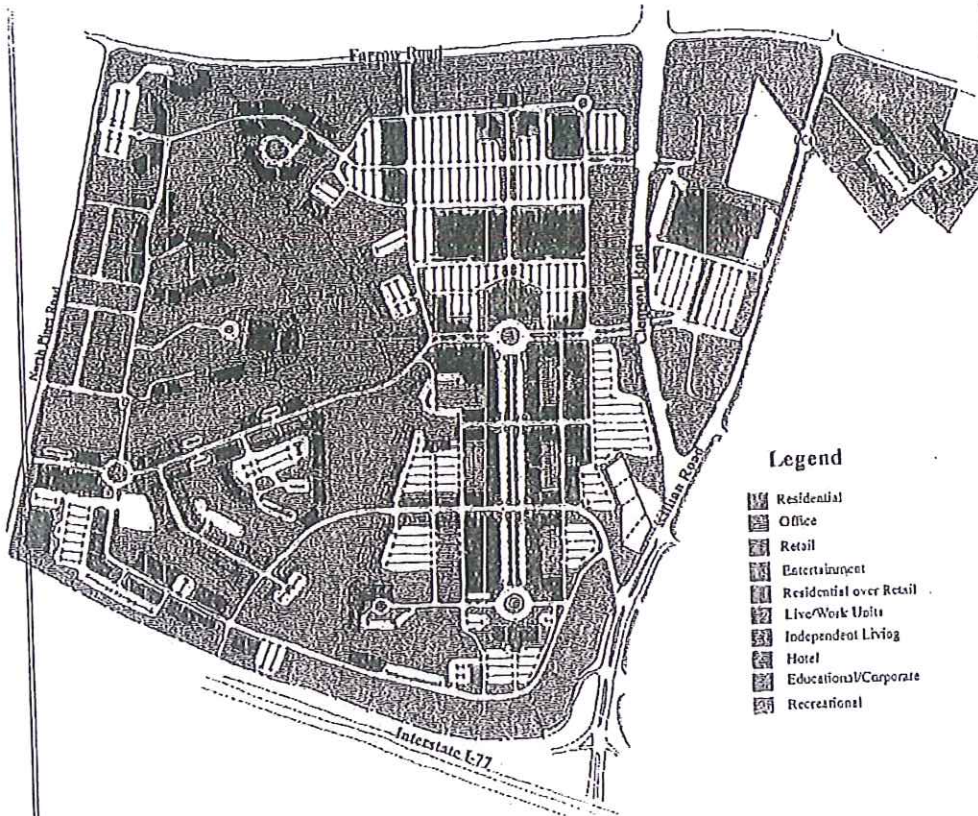
Public Hearing: July 25, 2006
First Reading: July 25, 2006
Second Reading: September 12, 2006
Third Reading: September 19, 2006

EXHIBIT A

Master Site Plan

KILLIAN'S CROSSING

LIVE/WORK/PLAY



Legend

- Residential
- Office
- Retail
- Entertainment
- Residential over Retail
- Live/Work Units
- Independent Living
- Hotel
- Educational/Corporate
- Recreational

DCG Development

Overcash Demmitt
Architects

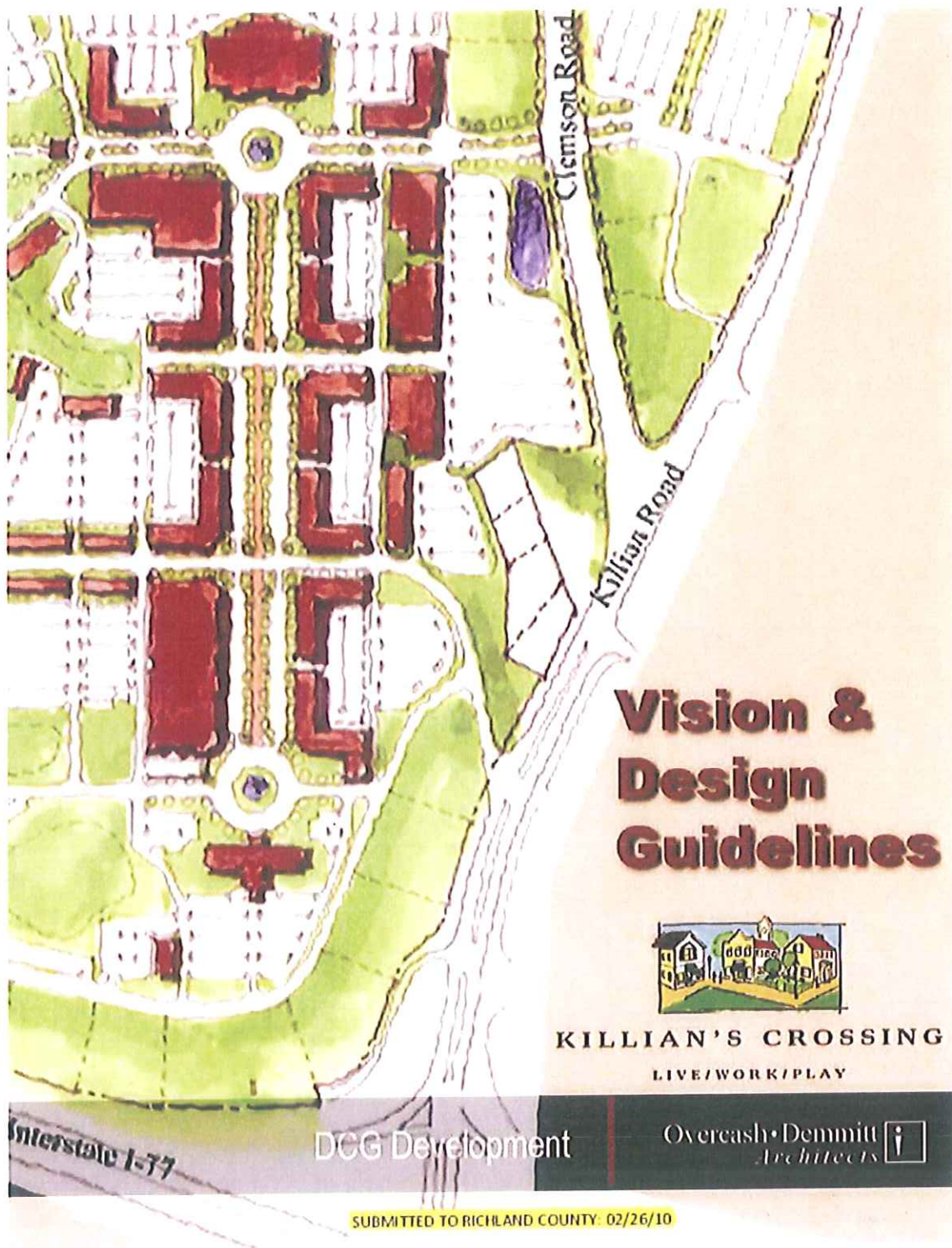


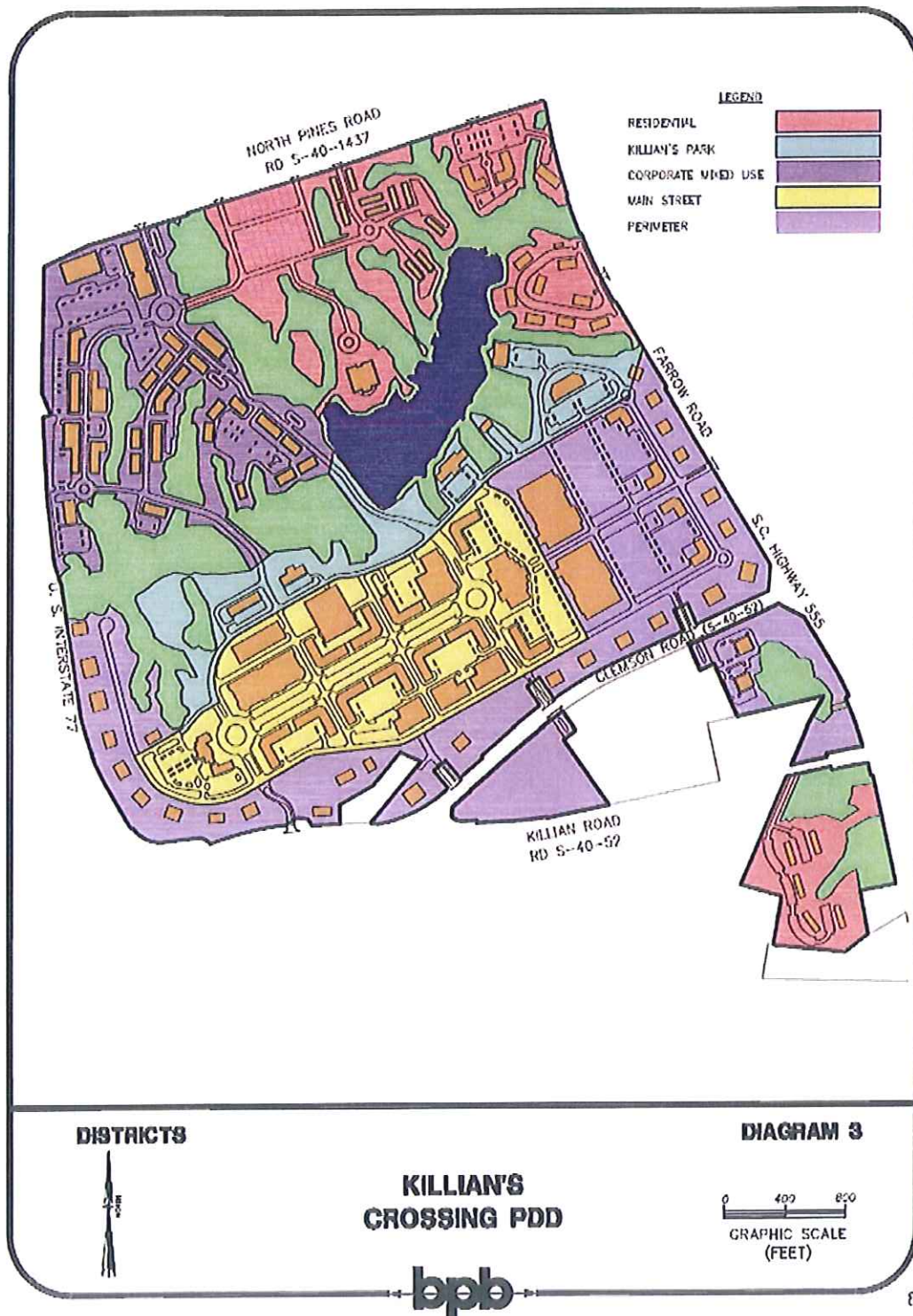
Land Use Table

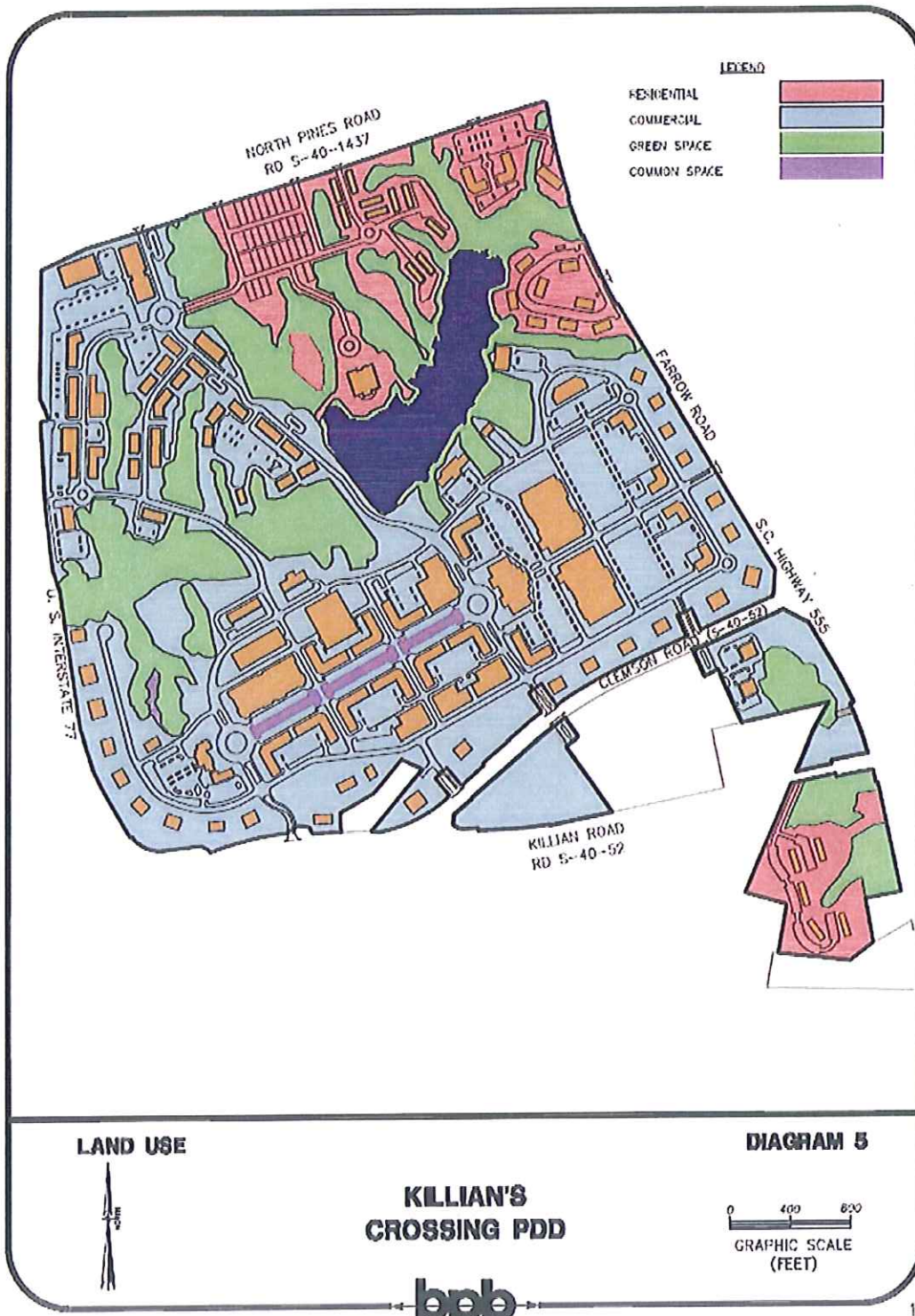
The primary land use categories within KILLIAN'S CROSSING:

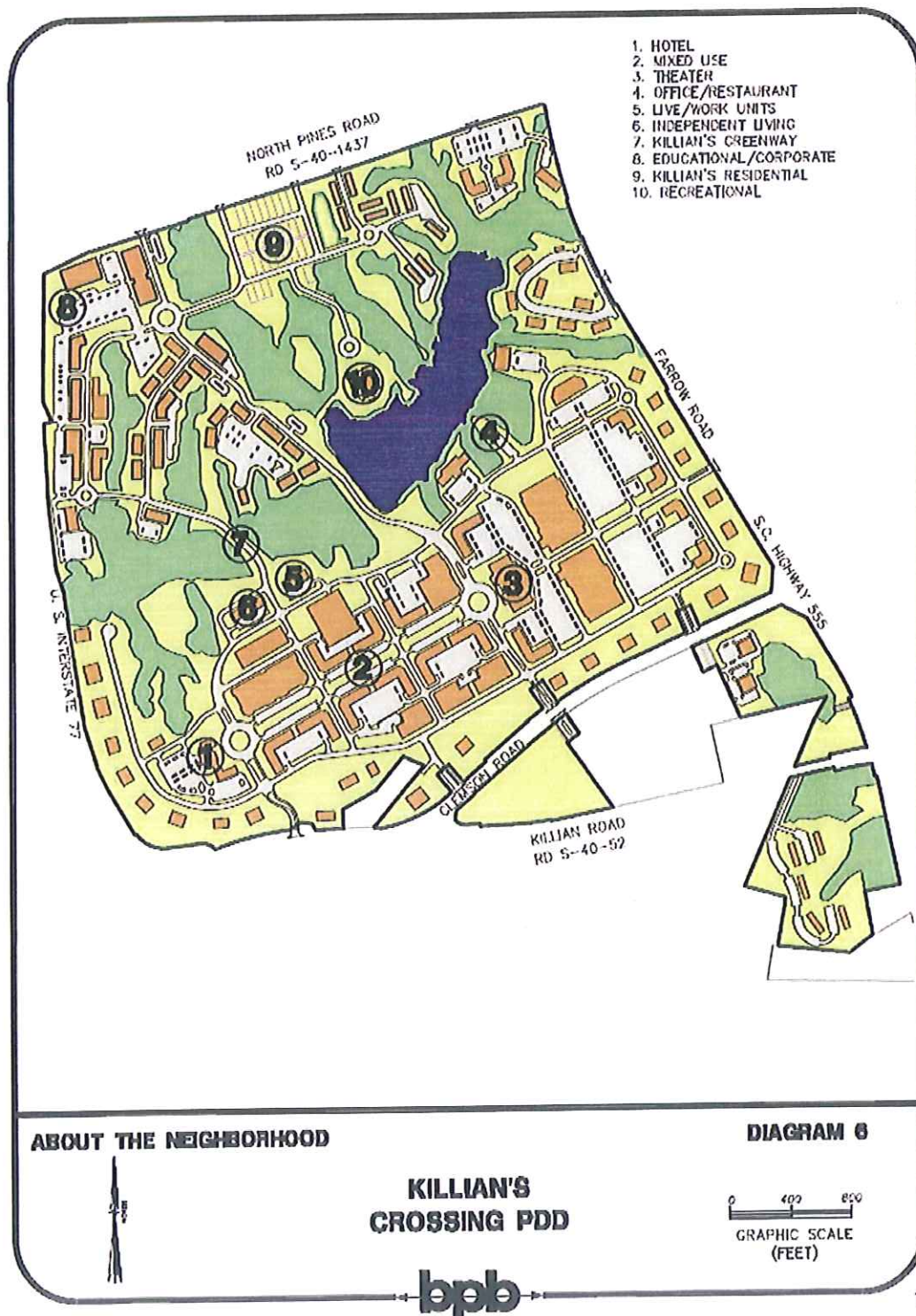
Use	Gross Area (Ac)	Percent
Single-Family Residential	11.5	3.5
Multi-Family Residential	59.0	17.7
Independent Living Residential	2.6	0.8
Live/Work Units	8.7	2.6
Residential over Retail	21.0	6.3
Hotel	3.8	1.1
Education/Corporate	14.5	4.4
Commercial Office	18.4	5.5
Entertainment	4.4	1.3
Retail	101.8	30.6
Recreational	1.8	0.6
Green Space	84.8	25.6
Totals	332.3	100.0

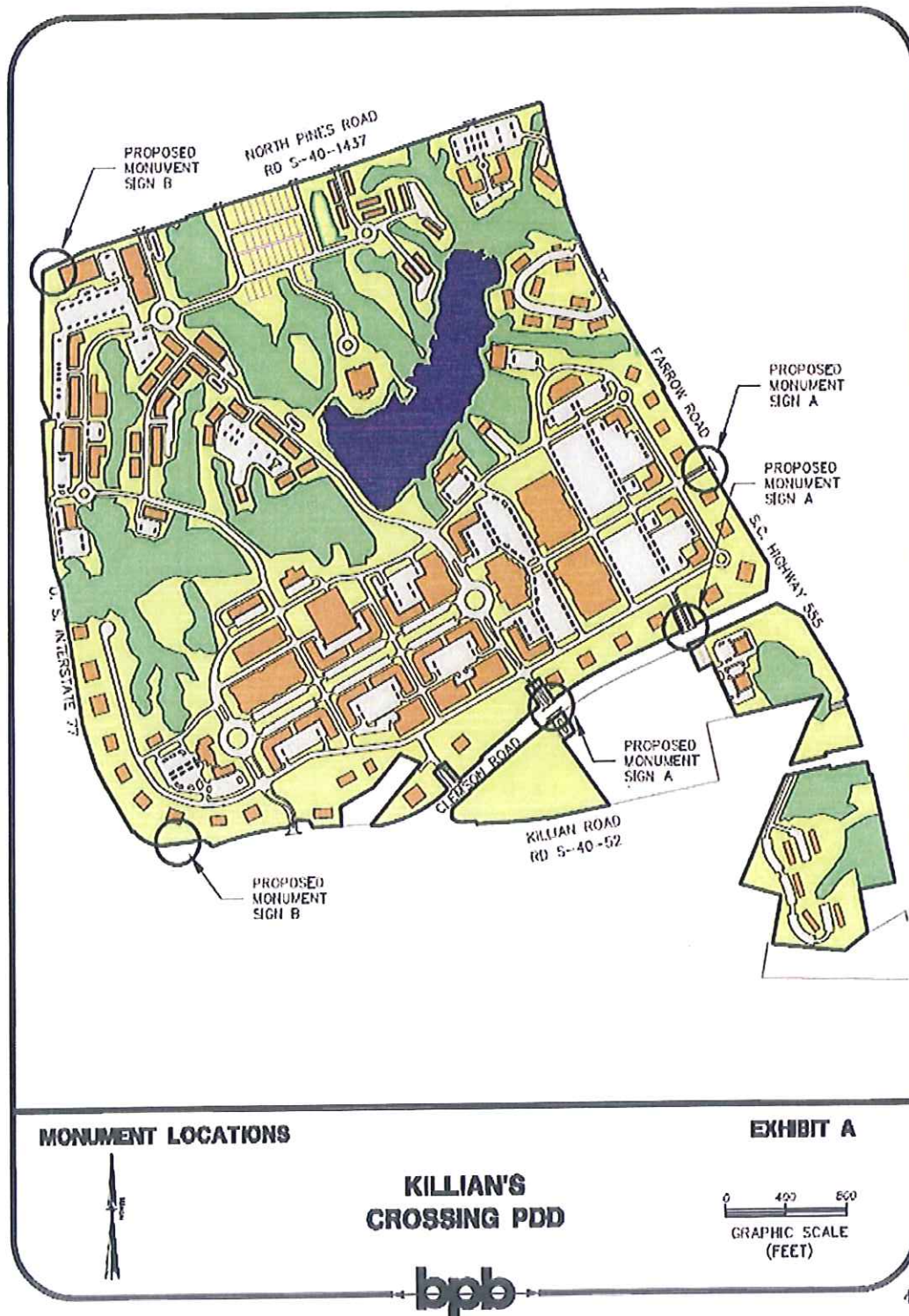
Atkins Exhibit 4











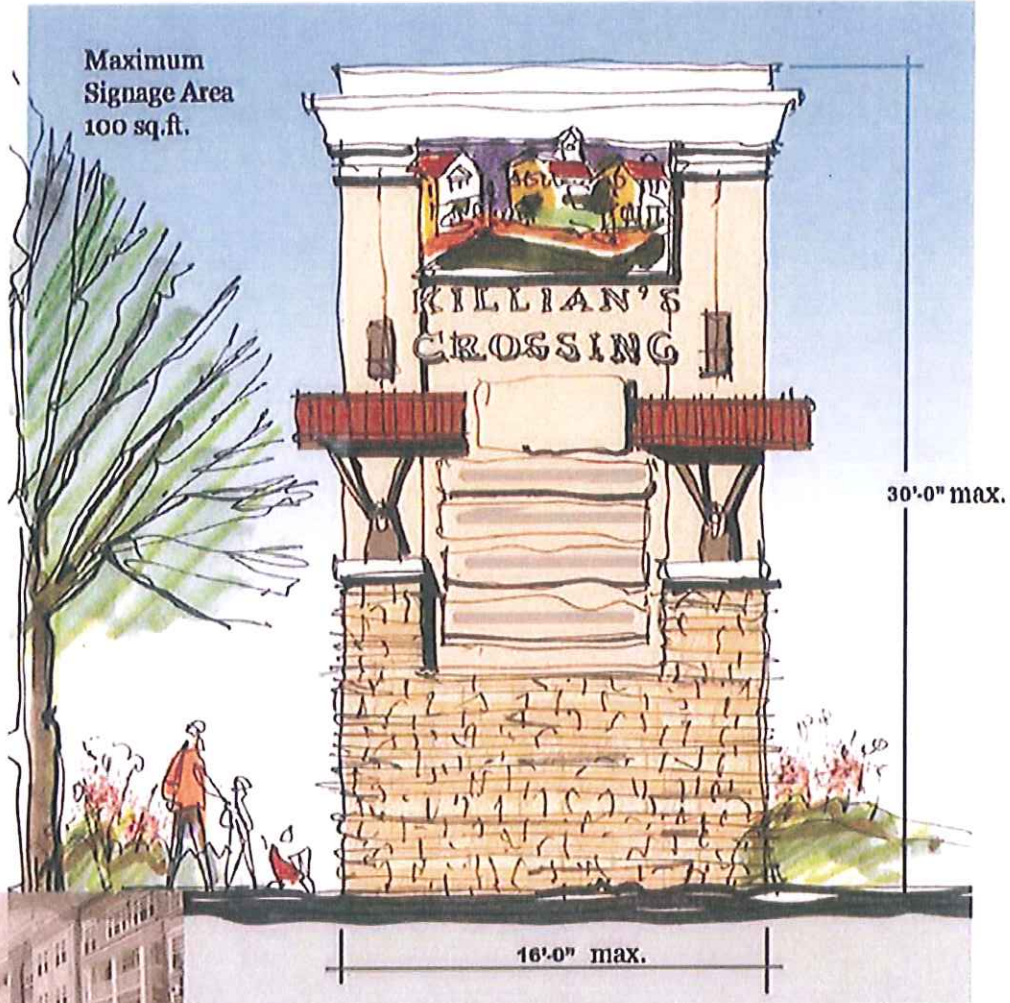
Proposed Monument
Exhibit A - Sign A



KILLIAN'S CROSSING

LIVE/WORK/PLAY

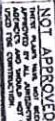
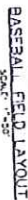
Maximum
Signage Area
100 sq.ft.



DCG Development

Overcash • Demmitt
Architects

Atkins Exhibit 5



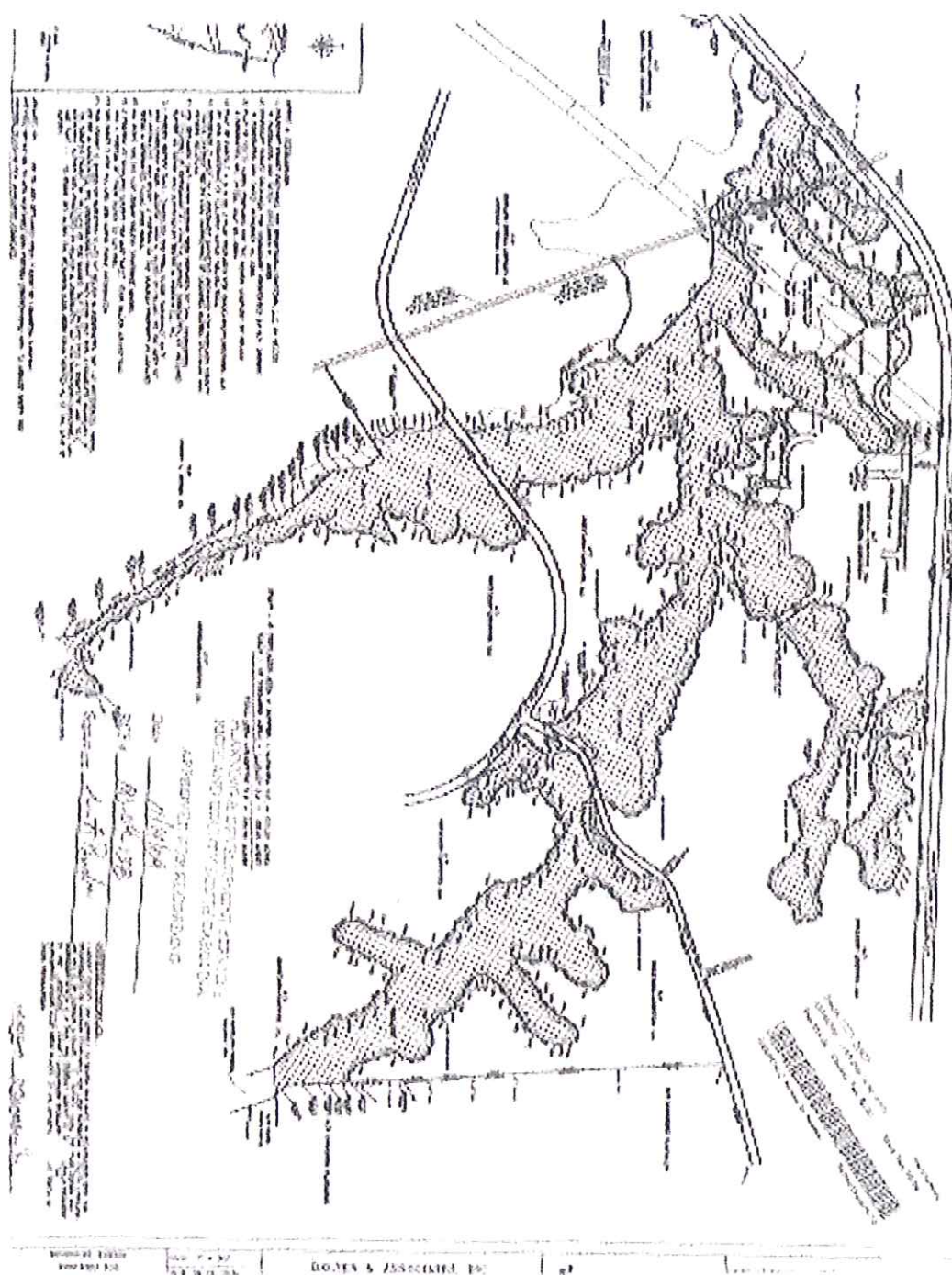
FARROW ROAD
SPORTS COMPLEX
RICHLAND COUNTY

OVERALL SCHEMATIC
SITE PLAN

bpb
BP Barber

~~PRELIMINARY~~

REVISIONS	
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Atkins Exhibit 6

Atkins Exhibit 7



RECEIVED

2011 AUG -4 AM 10: 04

RICHLAND COUNTY
ADMINISTRATOR'S OFFICE

Richard (Rich) M. Fletcher
Community / Economic Development &
Local Government Representative

Mr. Milton Pope
Administrator
Richland County
PO Box 192
Columbia, SC 29202

August 2, 2011

Dear Milton:

Thank you for meeting with Dwight Hollifield, Robert Lindler, and me on Wednesday, July 20, to discuss SCE&G's requested rights-of-way from Richland County for the new 230KV Transmission Line from Blythewood to Killian Substation. I am writing to you to outline the follow-up that SCE&G is currently undertaking as a result of the meeting.

One of the concerns mentioned during our meeting was that some of our zoning data was out-of-date at the time we did our Siting Study. We have committed to documenting the source of our data, the time we acquired the data, and the steps we took to ensure it was the most accurate and reliable data possible. Our partners at Pike Energy Solutions, who assisted us with our Siting Study, are assembling the requested information, and we expect to have a response to you prior to August 10.

Again, thank you for your time on July 20, and we appreciate the opportunity to work with you and your team. If you have any questions or need additional information, please let me know.

Sincerely,

Rich Fletcher

cc: Mr. Sparty Hammett, Assistant Administrator

Atkins Exhibit 8

From: FLETCHER, RICHARD M. [mailto:RICHARD.FLETCHER@scana.com]
Sent: Monday, August 08, 2011 9:29 AM
To: MILTON POPE
Subject: Follow-up from meeting on July 20

Milton,

I hope you had a good week off last week. I am following-up on our meeting from July 20. The County asked us to provide the source of the data we used for our site selection study and when we acquired it. Here is a very brief timeline of our data collection.

1. April 2009 – Ralph Miller downloaded a PDF file of the 2009 Richland County Comprehensive Plan (draft dated April 6, 2009). We used the mapping in this document to digitize a Future Land Use map that was used to help develop the suitability map (which was used to lay out alternate routes for the Blythewood-Killian 230 kV Line).
2. August 2009 – Sara Clayton and Ralph Miller viewed the Richland County website looking for proposed subdivisions. They have a 'proposed' road file that displays roads associated with approved subdivisions.
3. August 24, 2009 – Sara Clayton sent an e-mail to Mr. William Simon, Land Development Planner II, Richland County, requesting information on new subdivisions. She attached a map of the Blythewood – Killian 230kV Line study area with parcels highlighted where we thought new subdivisions were proposed based on the proposed roads referenced in item 2, above. Sara never received a response from Mr. Simon.
4. Sept-Oct 2009 – Sara Clayton and others pulled/checked zoning information from the Richland County website and manually digitized it into our GIS database. We had to do this because we had been previously told (in person and on the phone) by Brenda Carter (GIS manager in the Richland County Planning and Development Services Department) that the county zoning was not available in a digital format and we could view it on the county website. The zoning map was used to help develop the suitability map (which was used to lay out alternate routes for the Blythewood-Killian 230 kV Line).
5. October 29, 2009 – 1st community workshop

6. February-March 2010 – Sara Clayton, Ralph Miller and others reviewed/edited/checked the zoning based on the county website mapping before the second workshop.
7. March 16, 2010 – 2nd community workshop
8. April, May and June 2010-Route evaluations were conducted of the alternate routes.

Please let me know if you have any questions or require any additional information.

Rich

Rich Fletcher
Economic Development & Local Government Rep
SCANA Corporation
Phone: 803.217.5716
Fax: 803.933.8224
Mobile: 803.530.5339
richard.fletcher@scana.com
www.scana.com

Richland County Atkins Exhibit 9
VCS1 - Killian 230 kV Line
Blythewood - Killian Segment
Recalculated Siting Study Route Evaluation Summary Sheet

Alternate Route	Alternate Route Length (Miles)	Acres of Right-of-Way	Cultural Resource Factors	Natural Resource Factors	Land Cover Factors	Property Ownership Factors	Land Use Factors	Occupied Buildings Factors	Visibility Factors (Public)	Visibility Factors (Residential)	Water Quality Factors	Total Normalized Route Evaluation Score	Route's Siting Study Rank
A			0.00	0.00	1.50	9.72	1.50	2.21	2.14	1.05	10.00	37.07	3.00
B			0.00	0.00	2.08	10.00	2.08	2.60	3.22	3.28	8.26	38.70	5.00
C			0.00	0.00	6.94	9.26	6.94	2.82	6.21	3.22	6.81	43.00	14.00
D			4.00	0.00	1.65	9.03	1.65	1.86	2.19	1.74	8.39	45.00	18.00
E			4.00	0.00	7.06	8.29	7.06	2.08	5.08	1.69	6.94	43.13	15.00
F			4.00	0.00	3.87	8.45	3.87	2.06	2.27	1.72	7.55	38.07	4.00
G			4.00	0.00	4.40	7.70	4.40	2.27	2.81	1.67	6.10	36.16	1.00
H			0.00	0.00	8.43	5.96	8.43	1.88	6.89	3.91	5.27	36.67	2.00
I			0.00	0.00	9.65	5.98	9.65	3.20	7.55	5.40	6.21	42.73	13.00
J			0.00	0.00	9.94	5.11	9.94	5.00	6.75	5.52	5.90	42.67	12.00
K			0.00	0.00	9.33	4.68	9.33	4.65	9.59	3.66	4.64	40.44	8.00
L			10.00	0.00	1.43	3.33	1.43	7.29	3.53	8.91	2.86	40.42	7.00
M			0.00	0.00	9.65	6.01	9.65	4.19	5.46	5.83	6.19	42.05	9.00
N			0.00	0.00	6.96	5.12	6.96	5.98	4.66	5.95	5.83	38.91	6.00
O			0.00	0.00	9.33	4.69	9.33	5.64	9.85	4.09	4.62	42.08	10.00
P			10.00	0.00	1.43	3.34	1.43	8.27	3.79	9.41	2.79	42.09	11.00
Q			0.00	0.00	10.00	4.72	10.00	7.69	7.16	6.60	5.83	46.39	19.00
R			0.00	0.00	9.33	4.29	9.33	7.34	10.00	4.74	4.62	44.16	17.00
S			10.00	0.00	1.43	2.94	1.43	10.00	3.94	10.00	2.79	44.14	16.00

Richland County Atkins Exhibit 10
VCS1 - Killian 230 kV Line
Blythewood - Killian Segment
Recalculated Siting Study Route Evaluation Summary Sheet

Alternate Route	Alternate Route Length (Miles)	Acres of Right-of-Way	Cultural Resource Factors	Natural Resource Factors	Land Cover Factors	Property Ownership Factors	Land Use Factors	Occupied Buildings Factors	Visibility Factors (Public)	Visibility Factors (Residential)	Water Quality Factors	Total Normalized Route Evaluation Score	Route's Siting Study Rank
A			0.00	0.00	2.27	9.72	1.50	0.71	2.14	0.05	10.00	35.30	8.00
B			0.00	0.00	3.08	10.00	2.08	0.83	3.22	0.16	8.26	34.81	6.00
C			0.00	0.00	5.90	9.26	6.94	1.01	6.21	0.17	6.81	37.55	12.00
D			4.00	0.00	2.49	9.03	1.65	0.59	2.19	0.09	8.39	35.73	9.00
E			4.00	0.00	6.09	8.29	7.06	0.78	5.03	0.08	6.94	39.25	15.00
F			4.00	0.00	5.86	8.45	3.87	0.66	2.27	0.08	7.55	37.02	11.00
G			4.00	0.00	6.65	7.70	4.40	0.72	2.81	0.08	6.10	35.27	7.00
H			0.00	0.00	8.16	5.96	8.43	0.71	6.89	0.20	5.27	31.52	4.00
I			0.00	0.00	10.00	5.98	9.65	1.13	7.55	0.28	6.21	35.89	10.00
J			0.00	0.00	6.19	5.11	9.94	6.67	6.75	9.94	5.90	38.87	14.00
K			0.00	0.00	9.51	4.68	9.33	9.14	9.59	9.85	4.64	51.30	18.00
L			10.00	0.00	2.17	3.33	1.43	2.32	3.53	0.45	2.86	27.73	1.00
M			0.00	0.00	10.00	6.01	9.65	1.34	5.46	0.29	6.19	34.01	5.00
N			0.00	0.00	6.28	5.12	6.96	6.87	4.66	9.97	5.83	43.14	16.00
O			0.00	0.00	9.51	4.69	9.33	9.46	9.85	9.87	4.62	51.86	19.00
P			10.00	0.00	2.17	3.34	1.43	2.64	3.79	0.48	2.79	27.53	2.00
Q			0.00	0.00	6.28	4.72	10.00	7.53	7.16	10.00	5.83	45.91	17.00
R			0.00	0.00	9.51	4.29	9.33	10.00	10.00	9.90	4.62	37.75	13.00
S			10.00	0.00	2.17	2.94	1.43	3.19	3.94	0.51	2.79	28.58	3.00

Atkins Exhibit 11



Exhibit 11A. Killian/Clemson Road looking northeast from I-77; Killian's Crossing PDD is on the left.



Exhibit 11B. Killian/Clemson Road looking northeast from I-77; Killian's Crossing PDD is on the left. Note the extensive line of sight.



Exhibit 11C. Killian/Clemson Road looking northeast from I-77; Killian's Crossing PDD is on the left. Note the extensive line of sight.



Exhibit 11D. Killian/Clemson Road looking north at Killian & Clemson Road intersection; Killian's Crossing PDD is straight ahead. Note the extensive line of sight and the City of Columbia elevated water storage tank in the distance.



Exhibit 11E. Killian/Clemson Road looking north at Killian & Clemson Road intersection; Killian's Crossing PDD is straight ahead. Note the extensive line of sight and the City of Columbia elevated water storage tank in the distance.



Exhibit 11F. Killian/Clemson Road looking north from the McDaniel's auto dealership; Killian's Crossing PDD is straight ahead. Note the extensive line of sight and the City of Columbia elevated water storage tank in the distance.



Exhibit 11G. Killian/Clemson Road looking northeast from the McDaniel's auto dealership toward Farrow Road; Killian's Crossing PDD is on the left. Note the extensive line of sight.



Exhibit 11H. Killian/Clemson Road looking northeast from the McDaniel's auto dealership toward the Farrow Road Clemson Road intersection; Killian's Crossing PDD is on the left. Note the extensive line of sight and commercial property soon to be developed on the right.



Exhibit 11 I. Killian/Clemson Road looking southwest toward the McDaniel's auto dealership; Killian's Crossing PDD is on the right. Note the extensive line of sight.



Exhibit 11 J. Standing on the future Main Street in the Killian's Crossing PDD looking north toward the Farrow Road Clemson Road intersection; Note the extensive line of sight, lack of trees and the yellow traffic sign.

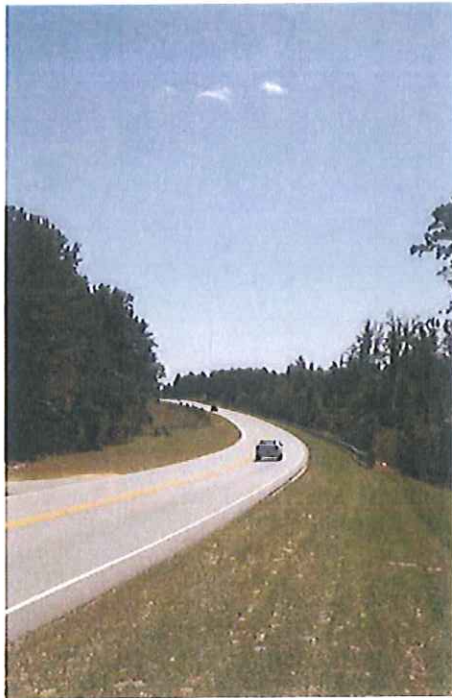


Exhibit 11 K. Looking southeast along Farrow Road to the intersection with Clemson Road; the Killian's Crossing PDD is to the right; Note the extensive line of sight and topographic rise.



Exhibit 11 L. Standing at the Killian/Clemson Road intersection looking southwest toward the McDaniel's auto dealership; Killian's Crossing PDD is on the right. Note the extensive line of sight.

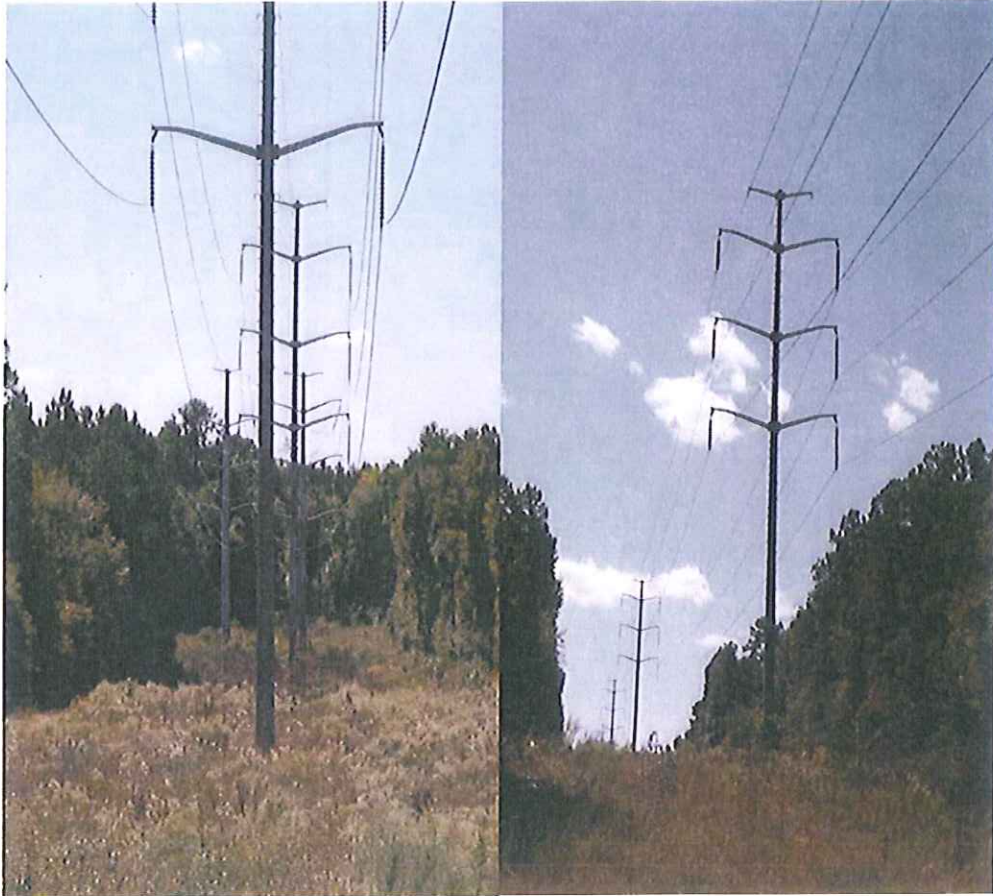


Exhibit 11 M. Existing SCE&G dual circuit 230kV/115kV transmission line located on the future Richland County Regional Sports Complex. Both pictures are looking southwest. Note the significant change in topography in the picture on the right as the line runs from high ground into a wetland area adjacent to RCCC conservation property (TMS#17300-02-35).

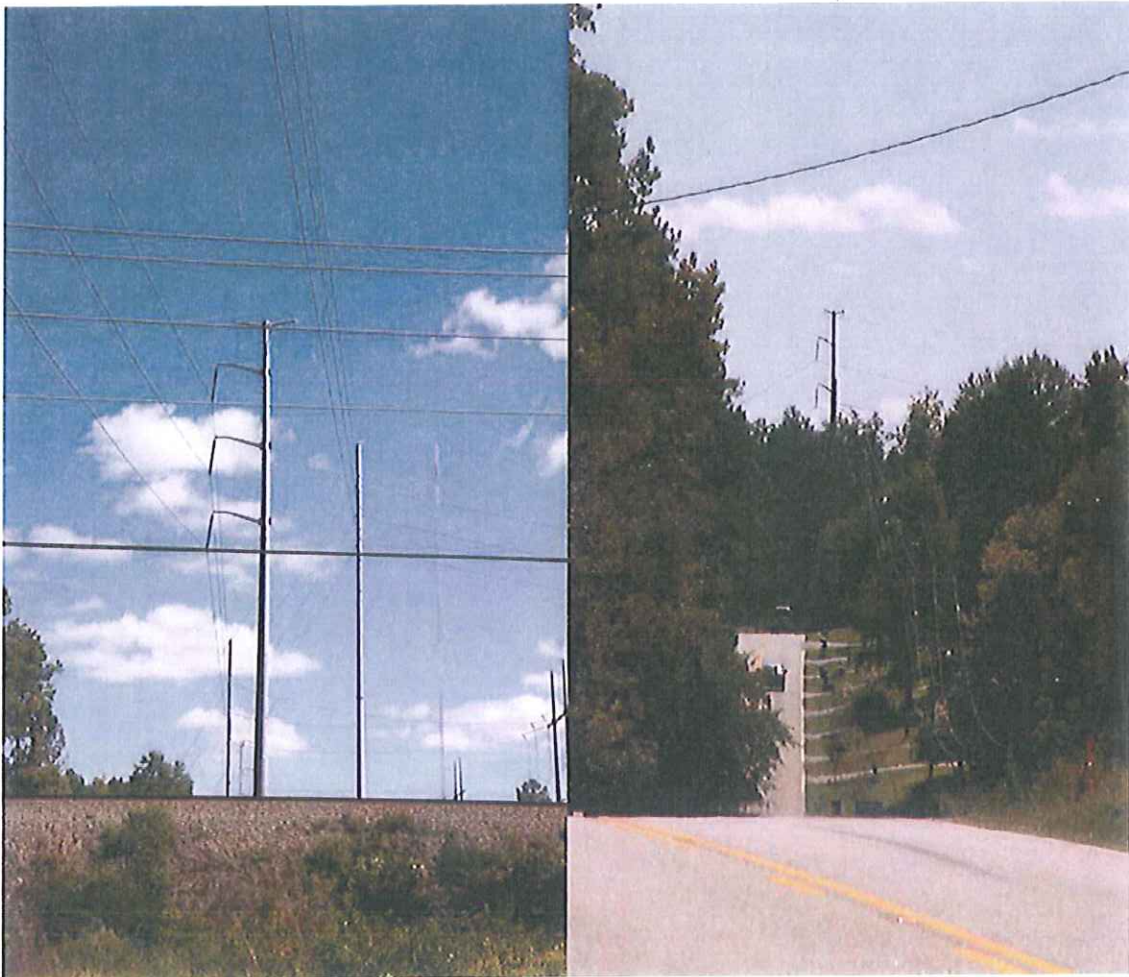


Exhibit 11 N. Existing SCE&G dual circuit 230kV/115kV transmission line located on the future Richland County Regional Sports Complex as it terminates into the existing Killian's substation. The picture on the left is looking southeast from the Complex. The picture on the right is from Farrow Road looking south toward the same tower on the left-hand picture at the terminus with the Killian's substation. Note the significant height and visibility of the transmission tower compared to the adjacent trees and surroundings.



Exhibit 11 O. Existing SCE&G single circuit 115kV transmission line located along Longtown Parkway; Note the significant height and visibility of the transmission tower compared to the adjacent trees and surroundings; The top of the house is located in the Brandon Place subdivision adjacent to the RCCC conservation property at Longtown (TMS#17500-03-66/67).